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LOYOLA UNIVERSITY CHICAGO

COMMUNITY VIOLENCE EXPOSURE AMONG ETHNIC MINORITY YOUTH:  
UNDERSTANDING THE PREDICTIVE ROLES OF DEPRESSIVE SYMPTOMS AND  
RISKY BEHAVIOR IN A COMMUNITY SAMPLE

A DISSERTATION SUBMITTED TO  
THE FACULTY OF THE GRADUATE SCHOOL  
IN CANDIDACY FOR THE DEGREE OF  
DOCTOR OF PHILOSOPHY

PROGRAM IN CLINICAL PSYCHOLOGY

BY

AMANDA NICOLE BURNSIDE

CHICAGO, IL

AUGUST 2020

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## ABSTRACT

Ethnic-minority youth residing in urban communities are disproportionately impacted by community violence exposure (ECV), and despite decades of research, rates of ECV in youth continue to increase. Further, person-based analyses have demonstrated variability in rates of ECV, even among youth who share similar risky demographic factors and it is important to examine the utility of psychological factors as predictors of ECV. Drawing from public health frameworks and the reciprocal-stress model, the current study seeks to better understand the longitudinal relationship between various components of depressive symptoms (depressed affect, somatic symptoms, depressive cognitions, suicidal thoughts and behaviors) in the prediction of ECV, and the role of engagement in risky or delinquent behavior as a mechanism in this relationship. In addition, the current study examines age and gender differences in this relationship. Youth ranged in age from 9.12-19.89 ( $M = 14.03$ ,  $SD = 2.51$ ). The sample was 56.6% Latino and 43.4% African American. Results reveal the importance of depressive symptoms in ECV through engagement in risky behavior and implications for clinical intervention are discussed.

## CHAPTER ONE

### INTRODUCTION

Violence in the United States has been characterized as a public health crisis and witnessing or being a victim of violence in the community can have cascading negative health and economic effects at the individual and systemic level (Listenbee et al., 2012; Davis, 2014). Low-income, ethnic minority youth are disproportionately impacted by the violence epidemic, making them especially susceptible to these deleterious outcomes (Voisin, 2007; Zimmerman & Messner, 2013). However, despite decades of research continuing to demonstrate the detrimental impact of community violence exposure on children and adolescents, a relative paucity of research has been dedicated to explaining how youth are at differential risk for experiencing violence exposure (Antunes & Ahlin, 2017). Indeed, person-based analyses have demonstrated significant variability in rates of community violence exposure and research overwhelmingly demonstrates that some youth witness less violence than others, despite sharing similar demographic risk factors (Papachristos, 2009; Gaylord-Harden, Dickson, & Pierre, 2015). Due to this, it is important to examine the utility of additional, individual-level psychological and behavioral factors in predicting community violence exposure, as these factors may be more malleable, making them useful for identifying youth that may be at higher risk and providing suitable targets for prevention.

Ecologically framed models have identified that although community violence exposure is multiply determined, children's individual behaviors and cognitions are significant

contributors in the prediction of community violence exposure (Salzinger et al., 2006). The research on externalizing behaviors supports this model, as research continues to demonstrate that youth who engage in more risky and delinquent behavior are at increased risk for violence exposure (Lynch & Cicchetti, 1998; Zimmerman & Bauermeister, 2012). However, less is known about the role of internalizing symptoms. One study of juvenile offenders ages 14-18 found that hopelessness towards the future significantly predicted community violence exposure one year later, and this relationship was mediated by engagement in risky behavior (Burnside & Gaylord-Harden, 2018). This suggests that depressive symptoms may play an important role in the prediction of community violence exposure and may serve as an important target for intervention. However, little is known about the role of different components of depression in this relationship, as well as how this relationship would differ based on the gender or age of the youth. The current study seeks to fill these gaps in the literature. Guided by the reciprocal stress model (Kim et al., 2003), the purpose of the current study is to examine the role of internalizing symptoms in the prediction of future violence exposure and the mechanisms of this relationship.

The following sections of the current proposal will review the literature on the following topics: 1) Exposure to community violence in adolescence 2) Intervention-Informing research on community violence exposure 3) Heterogeneity in community violence exposure 4) Psychological factors that predict community violence exposure 5) Components of depression as predictors of community violence exposure 6) The role of risky and delinquent behavior.

## CHAPTER TWO

### REVIEW OF RELEVANT LITERATURE

#### **Exposure to Community Violence in Adolescence**

Exposure to community violence is defined as the direct victimization, witnessing, or hearing about violent acts in a neighborhood or community (Cooley, Turner, & Beidel, 1995). Community violence generally excludes other types of violence such as domestic abuse, bullying, and media violence (Kennedy & Ceballo, 2014). The majority of research on community violence has assessed witnessing violence and violent victimization separately and differentiates between these two types of exposure (Kennedy & Ceballo, 2014). Witnessing is defined as viewing or hearing about an act of violence, which can include loss of property, injury, or death, of family members, peers, or other members of the community (Listenbee et al., 2012; Fowler et al., 2009). Community violence victimization refers to being the target of an intentionally harmful act committed by another individual, such as being robbed, assaulted, or shot (Fowler et al., 2009).

Youth are disproportionately impacted by violence in the United States, as research demonstrates that adolescents ages 12-24 are significantly more likely than individuals in any other age group to be exposed to or be the victim of violence (Sickmund & Puzzanchera, 2014; Finkelhor, Rutner, Ormrod, Hamby & Kracke, 2009). Community violence exposure is estimated to affect two out of every three children in the United States, with nearly 70% of adolescents reporting being the victim of a violent crime in a nationally representative survey (Listenbee et

al., 2012; Finkelhor, Turner, Shattuck, Hamby, & Kracke, 2013). Exposure to community violence has been identified as one of the most significant public health epidemics facing American youth today and has been labeled as a national crisis (Osofsky, 1999; Listenbee et al., 2012).

### **Exposure to Community Violence in Low-Income, Ethnic Minority Adolescents**

Compared to youth from other communities, youth from low-income, urban communities are at even greater risk for community violence exposure (Voisin, 2007; Sauners, Kilpatrick, & Resnick, 2000). Structural neighborhood factors such as concentrated disadvantage and a lack of youth services significantly increase the likelihood of violence exposure (Zimmerman & Messner, 2013), making urban youth especially susceptible. It is estimated that between 50%-96% of urban youth from low-income communities are exposed to neighborhood violence in their lifetime (Stein, Jaycox, Kataoka, Rhodes, & Vestal, 2003).

Even when controlling for higher levels of neighborhood disadvantage and household income, ethnic minority youth still experience overwhelmingly higher rates of violence exposure than white youth (Zimmerman & Messner, 2013; Crouch et al., 2000). Specifically, the odds of Hispanic and Black youth being exposed to violence are 74% and 112% higher than their white counterparts (Zimmerman & Messner, 2013). Further, approximately 74% of youth of color in urban communities report witnessing a shooting and 56% report witnessing a stabbing (Paxton, Robinson, Shah & Schoeny, 2004), and youth of color are twice as likely to witness a shooting or a stabbing as White youth in the same school system (Schwab-Stone et al., 1995).

When examining specific ethnic/racial groups, research suggests that there is an inconsistency in the literature regarding differences in levels of community violence exposure

between African American and Latino youth. Some research has demonstrated higher rates of community violence exposure among African American youth compared to Latino youth (e.g. Crouch et al., 2000; Finkelhor, Turner, Hamby, & Ormrod, 2011), while other research shows that Latino youth are exposed to more violence than African American youth (e.g. Rasmussen, Aber, & Bhana, 2004). Further, some research has found no significant differences between the two racial groups (e.g. Aisenberg, Ayon, & Orzco-Figueroa, 2008; Buckner, Beardslee, & Bassuk, 2004). These inconsistencies are likely due to differences in sampling, as research continues to demonstrate that socioeconomic status and neighborhood disadvantage strongly influence rates of violence exposure above and beyond other demographic factors (Crouch et al., 2000).

Given that ethnic minority adolescents from urban communities are disproportionately exposed to higher levels of community violence, they are also at a greater risk of experiencing numerous negative outcomes associated with violence exposure. In particular, the literature has overwhelmingly demonstrated that community violence exposure is associated with a myriad of negative psychological outcomes in youth including posttraumatic stress symptoms (Fowler et al., 2009), externalizing symptoms such as aggression and delinquency (Flannery et al., 2001; Rosenthal, 2000), and internalizing symptoms such as depression and suicidal thoughts (Lambert et al., 2005; Scarpa, 2003). Exposure to community violence has also been linked to decreased physical health outcomes, including a higher likelihood of children reporting somatic complaints, including appetite problems, sleep disturbance, headaches, and stomachaches (Bailey et al., 2005), an increased likelihood of asthma morbidity even when controlling for other extraneous social and demographic factors (Wright et al., 2004; Walker et al., 2008), as well as an increase

in health risk behaviors such as drug use and risky sexual behaviors (Berenson, Constance, & Wiemann, 2001). As a public health crisis, community violence exposure also places a significant financial burden on many of the nation's public systems that serve youth such as education, medical care, child welfare, legal and social services, and juvenile justice (Listenbee et al., 2012; David-Ferdon & Simon, 2014). Considering the increased exposure to community violence among urban, low-income, adolescent youth coupled with the wide range of deleterious outcomes, studying community violence exposure in this population is especially critical.

***Gender differences in exposure to community violence.***

The large majority of research on community violence exposure in youth has identified that, with the exception of sexual victimization, males are at increased risk for both witnessing and being the victim of community violence exposure when compared to females (e.g., Antunes & Ahlin, 2017; Lambert et al., 2005; Fitzpatrick & Boldizar, 1993; Boyd et al., 2003). For instance, some studies have found that the odds of witnessing violence are 51% higher for male youth than female youth (Zimmerman & Messner, 2013), and when examining data on the incidence of shooting victimization among urban high school students, being male was the single most significant predictor of being the victim of a shooting (Chandler, Levitt, & List, 2011). Of note however, some research has found similar levels of victimization and witnessing community violence across males and females (Sickmund & Puzzanchear, 2014), and one study that utilized daily sampling method to capture children's real-time, daily accounts of community violence exposure in a sample of African American middle school youth found that females experienced significantly higher rates of daily average violence exposure across the week of data collection than males (Richards, Romero, Zakaryan, & Carey et al., 2014). Additionally, research



continues to demonstrate that the deleterious effects of violence exposure are similar across genders and at times even exacerbated for girls (e.g., Voisin, Patel, Hont, Takahashi, & Gaylord-Harden, 2016; Fowler et al., 2009).

Despite the fact that research demonstrates that a significant proportion of females are exposed to community violence and that they just as susceptible to the multitude of negative outcomes, a disproportionate amount of research on community violence exposure is conducted on males only (Fowler et al., 2009). Experts in related fields such as forensic psychiatry have recently called for more targeted and intentional research on violence in girls specifically, as the research on risk factors and developmental pathways that has been conducted on primarily male samples is often assumed to apply to also apply to females (Vogel & Nicholls, 2016; Vogel, Stam, Bouman, Horst, & Lancel, 2016). A meta-analysis on community violence exposure and mental health outcomes in youth also demonstrates a need for an increased focus on female, community-based samples, as the majority of the research on community violence exposure in females has been conducted on targeted, specific samples such as homeless youth or college students. There is clearly a need to more specifically examine gender differences in risk factors for exposure to community violence.

***Age differences in exposure to community violence.***

Studies overwhelmingly demonstrate that older youth are at increased risk of experiencing more community violence exposure than younger youth (e.g., Finkelhor et al., 2009). Some researchers posit that this is closely related to differences in levels of parental guardianship and monitoring, and due to the fact that older youth spend more time engaging in unstructured socialization within their neighborhood, which in turn increases their risk for

exposure (Antunes & Ahlin, 2017). Relatedly, one study found that the amount of monitoring parents engage in decreases as youth increase in age, and this decline is greater for youth who have more community violence experiences (Spano et al., 2012). In addition to a decrease in parental monitoring, adolescence and emerging adulthood is also a time when individuals are developmentally most likely to engage in risky behavior compared to other ages across the lifespan (e.g., Kambam & Thompson, 2009).

Despite the numerous studies that have demonstrated a positive relationship between age and violence exposure, some recent research suggests that this relationship might be more complicated than previously considered. Specifically, one study found that these age disparities were significantly moderated by neighborhood context, such that in neighborhoods with a high level of concentrated disadvantage the difference in levels of community violence exposure between age groups was no longer significant (Zimmerman, 2015). In other words, even younger youth residing in highly impoverished areas remain at high risk for community violence exposure. In addition, research continues to demonstrate that early exposure to violence is highly salient. One study found that witnessing or being the victim of community violence before the age of 12 had a significant impact on behavioral and mental health outcomes 6 years later, and one of the most documented risk factors for future violence exposure is prior exposure (Bouffard & Koeppel, 2014; Tolan, 2016). In addition, one study found that exposure to violence was relatively stable over time when examined among a primarily African American sample of youth over a 7-year period (ages 11-18; Mrug, Madan, & Windle, 2016). This suggests that examining risk for violence exposure in younger youth may be especially warranted.

Further, examining early risk factors for community violence exposure in younger youth

may also have important implications for violence prevention efforts. For instance, one intervention that provided families vouchers to move out of public housing in low-income neighborhoods found positive outcomes for children ages 8-13, but found no significant benefits for adolescents ages 14-18 (Leventhal & Brooks-Gunn, 2003; Byck, Bolland, Dick, Swann, Henry, & Mustanski, 2015). This suggests that targeting younger youth for preventative interventions may be especially beneficial, yet despite increases in research on community violence exposure, there is still a relative paucity of longitudinal studies that examine violence exposure over time and allow for comparisons across developmental levels (Fowler et al., 2009). More research is needed to better understand the ways in which age influences violence risk.

### **Intervention-Informing Research on Community Violence Exposure**

In response to the high prevalence and detrimental impact of community violence exposure, a wealth of protective factors have been identified to buffer these negative outcomes after a youth has experienced community violence exposure. For example, factors such as the use of avoidant coping (Edlynn, Gaylord-Harden, Richards, & Miller, 2008), high family functioning (Gorman-Smith, Henry, & Tolan, 2004), parental supervision and monitoring (Burton & Jarrett, 2000), social support (Hammack et al., 2004; Paxton, Robinson, Shah, & Schoeny, 2004), youth emotion regulation skills (Kliewer et al., 2004) and close family relationships (Ozer, Lavi, Douglas, & Wolf, 2015) have all been demonstrated to help youth experience better outcomes after they have been exposed to community violence, and in turn these findings have informed intervention efforts with violence-exposed youth.

There is no doubt that it is important to examine the variations in developmental trajectories that follow exposure to community violence and the potential moderating factors that

may serve as protective in this context, as these factors may be useful in mitigating the impact of maladaptive psychological outcomes after the occurrence of community violence exposure.

Unfortunately, despite years of intervention research and implementation, data on violence trends from the National Survey of Children's Exposure to Violence demonstrated that there was no significant overall change in levels of youth violence exposure for victimization or witnessing between the years 2008 to 2014 (Child Trends, 2016). This sobering statistic highlights a need to focus on primary prevention efforts, or ways to prevent youth from being exposed to community violence exposure in the first place. Indeed, in a commentary on the implications of a special journal issue dedicated to the epidemic of community violence exposure, Luthar and Goldstein (2004) concluded that the primary focus of prevention efforts should be simply to reduce the occurrence of exposure to community violence. Notably, nearly 15 years later similar calls have been made in the literature with an ongoing paucity of research targeting prevention (Lee, Larkin & Esaki, 2017).

The prevention of exposure to community violence will require the application of models from the public health field in order to approach the epidemic from a prevention framework. Adapted from a disease prevention perspective, the public health model is a systematic strategy for combatting an epidemic that is commonly adapted for use within the behavioral health field. This model employs a three-level categorization approach focusing on the timing of prevention efforts and highlighting the comprehensive need for action at each unique risk level (Walker & Shinn, 2001; Prothrow-Stith, 1995; Gilkis et al., 2006). In the tertiary level of prevention, long-term efforts focus on individuals who have already been chronically exposed to violence and are designed to mitigate the lasting negative impact of violence and prevent recurrence (CDC, 2004;

Gilkis et al., 2006). Secondary preventions respond immediately after the problem occurs with the goal of slowing the negative effects of exposure to prevent long-term problems and encouraging coping strategies to prevent recurrence. In contrast, primary prevention involves preventing a problem from emerging in the first place by altering behaviors that can lead to violence exposure (Walker & Shinn, 2002; Gilkis et al., 2006).

The aforementioned literature on factors that may moderate the relationship between exposure to community violence and negative outcomes serves to ultimately inform secondary and tertiary prevention efforts, which target youth who have already been exposed to community violence. A commonly employed strategy in public health involves shifting the focus “upstream.” This concept is best described by using a metaphor in which an individual keeps seeing people floating down a river at risk of drowning. After continuing to try and pull people out of the river and save them one at a time, the individual decides to walk upstream and figure out what is causing them to fall in the river (Todres, 2011). Upstream intervention involves changing the focus from “postvention” responses after a situation has occurred to identifying why the situation has occurred in the first place. Employing the primary prevention approach of the public health model and focusing “upstream” provides an opportunity to shift the paradigm from trying to mitigate the negative impact of violence exposure after it has occurred to preventing exposure altogether.

Despite the growing body of literature documenting the negative effects of community violence exposure, there is a relative paucity of research examining specific factors that precede exposure and thus may serve to predict future community violence exposure. In a call for a multilevel, public health response to the crisis of community violence, it was proposed that

programs targeting youth at high risk for being exposed to community violence would be beneficial, yet represent a notable gap in intervention research and practice (Fowler & Braciszewski, 2009). Identifying early, predictive factors that place youth at increased risk for violence exposure may serve to inform targeted, preventative interventions and provide a unique opportunity to intervene before youth are chronically exposed to community violence and become at risk for a host of maladaptive outcomes. A recent review article examining youth exposure to violence notes that, “there seems to be more literature dedicated to the deleterious sequelae of [community violence exposure] than explaining how youth are at differential risk for [community violence exposure] (Antunes & Ahlin, 2017).” For this reason, the current study focuses on identifying and examining factors that may serve to predict higher levels of community violence exposure.

### **Heterogeneity in Exposure to Community Violence**

A multitude of demographic factors have been explored that may serve to put youth at an increased risk for community violence exposure. Research has demonstrated that males are more likely than females (Fitzpatrick & Boldizar, 1993; Lambert et al., 2005), ethnic minority youth are more likely than White youth (O’Donnell, Schwab-Stone, & Muyeed, 2002), and older youth are more likely than younger youth (Weist et al., 2001) to be exposed to community violence exposure. Further, individuals residing in economically disadvantaged, high crime neighborhoods (O’Donnell, Schwab-Stone, & Muyeed, 2002; Selner-O’Hagan, Kindlon, Buka, Raudenbush, & Earls, 1998; Bell & Jenkins, 1993; Weist, Acosta, & Youngstorm, 2001), who are exposed to more stressful life events (Weist, Acosta, & Youngstrom, 2001), or who come from single parent homes (Bell & Jenkins, 1993) are more likely to be exposed to community

violence.

Although these well-established demographic risk factors for community violence exposure have provided a critical contribution to the literature, there is often an assumption that community violence exposure is just a “routine and inescapable part of growing up in impoverished communities” (Gibson, Fagan, & Antle, 2014). Demographic risk factors are important in creating risk profiles, but they just serve to identify youth who may be at increased risk for exposure. Notably, there still remains large variability among community violence exposure even within these high-risk groups, and research overwhelmingly demonstrates that some youth witness less violence than others, despite sharing similar demographic risk factors. For example, one study of African American adolescents ages 11-15 used person-centered analyses to classify youth into three violence exposure groups and found that 40% of the youth fell in a moderate victimization class, 23% in a low exposure class, and 37% in a high exposure class (Gaylord-Harden, Dickson, & Pierre, 2015). Of note, these youth were recruited from public schools in similar urban communities with high levels of concentrated poverty and crime. In a similar analysis of a sample of predominantly low-income, ethnic minority, middle school youth residing in an urban setting, a latent class analysis revealed that 36% of these youth reported witnessing any community violence exposure in the past year, and only 6% had been a victim of violence (Copeland-Linder, Lambert, & Ialongo, 2010). Another study examined clusters of community violence victimization and perpetration among 187 Black males ages 15-25 and found that the majority of the sample fell in the cluster characterized by both low violence victimization and perpetration (Thomas & Hope, 2016). Similar trends have emerged with community victimization in a sample of low-income African American male adolescents,

with only 8% of the sample falling in the high victimization group (Gaylord-Harden, Zakaryan, Bernard, & Pekoc, 2015). Due to the large variability in individual experiences of violence exposure even among youth who share similar risky demographic factors, it is important to examine the utility of additional, individual-level psychological and behavioral factors in predicting community violence exposure, as these factors may be more malleable than demographic factors, making them useful for identifying youth that may be at higher risk and providing suitable targets for prevention.

### **Psychological Factors that Predict Exposure to Community Violence**

Ecologically framed models have identified that although community violence exposure is multiply determined, children's individual behaviors and cognitions are significant contributors in the prediction of community violence exposure (Salzinger et al., 2006). One such theoretical framework, the reciprocal stress model, posits a bidirectional influence of stressful experiences and mental health symptoms such that stressful experiences can be both a cause and an effect of maladaptive emotional and behavioral reactions (e.g., Kim et al., 2003; Carter, Garber, Ciesla, & Cole, 2006). For instance, one study examining a sample of adolescents over a 6-year period found that stressful life experiences, delinquent behavior, and internalizing symptoms demonstrated a transactional relationship that persisted over time (Kim et al., 2003). Many researchers have suggested that the reciprocal-stress model expands and improves upon previous models of stress reactions because it is better able to represent the complicated, real-world relationship between stress and mental health symptoms (Coyle & Vera, 2013; Kim et al., 2003).

In a recent review article on predictors of community violence exposure, the authors note



that, “until now, far too little attention has been paid to the relevance of individual characteristics beyond traditional demographic variables and how they may serve to attenuate or mitigate youth [exposure to community violence]” (Antunes & Ahlin, 2017b). The bulk of the literature examining psychological factors that put youth at increased risk for violence exposure has focused on the fact that youth with externalizing behaviors, such as aggression, experience higher levels of future community violence exposure (Borowsky & Ireland, 2004; Lambert et al., 2005). In addition, youth who demonstrate conduct problems (Salzinger et al., 2006), engage in more delinquent behaviors (Lambert et al., 2005), have been previously arrested (Weiss et al., 2001), or are gang affiliated (Taylor, Peterson, Esbensen, & Freng, 2007) are at increased risk for future community violence exposure.

Although the findings from the research on the role of externalizing behaviors in predicting violence exposure are largely consistent, some research suggests that the relationship between externalizing behaviors and violence exposure may be more complex than previously assumed. Specifically, a longitudinal study examining a sample of 320 underserved middle school boys found an interaction between aggressive behavior and depressive symptoms in the prediction of community violence exposure such that aggressive behavior was not predictive of future witnessing of community violence exposure for boys with low depressive symptoms, but boys who reported high levels of depression were more likely to experience future witnessing of community violence exposure, regardless of levels of other risk factors such as deviant peer affiliation or parental monitoring (Lambert et al., 2005). The pattern of findings in this study suggests that depressive symptoms may in fact exacerbate the risk for witnessing community violence exposure. Similarly, person-based analyses of African American youth have found that

when examining differences between latent class analysis profiles of low and high violence exposure groups, impulsivity, as expected, was a distinguishing factor between the two groups. However, depression emerged as the second distinguishing factors between the two groups, with youth in the high exposure class exhibiting significantly more depressive symptoms than youth in the low exposure class (Lambert, Nylund-Gibson, Copeland-Linder, & Ialongo, 2010). Although the predictive utility of externalizing behaviors has been examined in the literature, these findings provide evidence of the unique role that internalizing factors, such as depression, may play in contributing to the prediction of community violence exposure in youth.

### **Components of Depression as Predictors of Exposure to Community Violence**

Interestingly, little is understood about the role of internalizing symptoms in the prediction of community violence exposure. Depression is strongly linked to economic disadvantage and stress exposure (e.g., Kessler et al., 1994), placing some youth of color at elevated risk for depressive symptoms due to the disproportionate number of these youth living in under-resourced communities (DeNavas-Walt & Proctor, 2015). One study found that, among a sample of African American youth ages 10-18, nearly twenty percent of the variation in the prediction of depressive symptoms in the sample was accounted for by socioeconomic status, the level of violence exposure the youth reported, and whether or not the youth had access to positive social capital (Fitzpatrick, Piko, Wright, & LaGory, 2005), suggesting that residing urban, low-income communities place youth at significantly increased risk for the development of depression. Youth of color are also less likely to access mental health services due to a myriad of systemic barriers, and this results in higher rates of psychiatric distress (Caldwell, Assari, & Breland-Noble, 2016). Indeed, research continues to demonstrate that youth of color experience

higher rates of depression than youth of other racial groups. One study found that among a sample of low-income, inner-city African American adolescents ages 13-18, nearly half of participants endorsed clinically significant levels of depressive symptoms (Hammack, Robinson, Crawford, & Li, 2004). Another study utilized a sample of urban, low-income and ethnic minority youth ages 11-16 and found that, when compared to normative data, youth in the sample were significantly more likely to endorse internalizing symptoms in the clinically significant range (Grant, Katz, & Thomas et al., 2004). Despite the heightened risk for depression, there is limited understanding of how depressive symptoms among youth may be specifically related to developmental ecological features in high risk communities, such as community violence (Costello, Swendsen, Rose, & Dierker, 2008).

Depression is a broad construct that encompasses a multitude of diagnoses, manifestations, and symptom clusters. Distinctions have been made between clinical depression and depressed mood, with clinical depression meeting the criteria for categorical diagnoses in the Diagnostic and Statistical Manual of Mental Disorders (American Psychiatric Association, 2013). Depressed mood is characterized by subthreshold symptoms of negative affect (Petersen et al., 1993). Although clinical depression may be more debilitating than depressed mood, evidence from community samples supports the chronicity and impairment associated with depressed mood in youth (e.g., Nolen-Hoeksema, Girgus, & Seligman, 1992). More nuanced examinations of depression identify multiple components that all play a unique role in the expression of the disorder. Specifically, contemporary theories of depression consist of cognitive, affective, and biological components (Beck, 2011). The affective component of depression relates specifically to dysphoric mood, as evidenced by sadness and decreased

interest in regular activities (Derogatis & Melisaratos, 1983). The biological component of depression entails the expression of psychological symptoms in a physical manner (Lipowski, 1988), such as nausea or feelings of numbness (Derogatis & Melisaratos, 1983). Finally, cognitive symptoms of depression are exhibited by dysfunctional attitudes and negative attribution styles (Beck, 2011). An additional component and critical symptom of depression is suicidal thoughts, which is comprised of thoughts of death or dying (APA, 2013). In order to critically examine the proposed prospective relationship between depression and community violence exposure in youth of color, all four components of depression should be examined.

***Depressed affect.***

The research overwhelmingly demonstrates that youth who are exposed to violence are at increased risk for the development of depressive symptoms (Knox, Funk, Elliot, & Bush, 2000; Vermeiren et al., 2003; Hagan & Foster, 2001), and exposure to community violence uniquely predicts increases in depressive symptoms over time, even when controlling for daily hassles or prior symptomatology (Gorman-Smith & Tolan, 1998; Ozer & Weinstein, 2006). Although few studies have examined this relationship in the reverse, the limited findings suggest that depressed mood and affect may predict violence exposure in youth. Research on daily mood states demonstrates that dysphoric feeling states may place youth at increased risk for exposure to violence (Sweeney, Goldner, & Richards, 2011). Specifically, in a study of 175 low-income, African American youth, those who reported feeling more sad, unfriendly, and disrespected, as well as more variability in those daily feelings (i.e. dysregulation of emotions) were more likely to experience community violence exposure (Sweeney, Goldner, & Richards, 2011). The authors speculate that this relationship may be explained by youth's tendency to place themselves in

scenarios characterized by high violence and greater levels of interpersonal risk in response to their inability to regulate these intense dysphoric feelings (Sweeney, Goldner, & Richards, 2011).

Exhibiting depressive affect may also increase vulnerability for youth, as some researchers have theorized that exhibiting a depressive affect may suggest weakness, and subsequently increase likelihood of violence victimization among youth (Cooley-Strickland et al., 2009; Reynolds et al., 2001; Attar et al., 1994). Similar results have been found in the criminology literature, in which theories of target attractiveness posit that specific characteristics such as physical weakness or psychological distress place individuals at increased risk for victimization by making them seem more vulnerable and easier targets (Miethe & Meier, 1994; Finkelhor & Asdigian, 1996). One nationally representative sample of 2,000 youth between the ages of 10 and 16 found that high psychological distress made a unique contribution to the prediction of future violent victimization by someone not in the family (Finkelhor & Asdigian, 1996). Psychological distress in this study was operationalized by a variable composed of sleep difficulties, feelings of guilt and hopelessness, irritability, and difficulties in emotion regulation that was highly correlated with depression and self-esteem. A proposed explanation for these findings is that youth with these characteristics may be less likely to deter or defend themselves against victimization and are therefore a more convenient target due to their vulnerability (Finkelhor & Asdigian, 1996). Based on the demonstrated relationship between depressive affect and increased violence exposure, these symptoms are important to further examine in a predictive model.

***Somatic symptoms.***

Research suggests that somatization might be particularly common among African American and Latino individuals, especially in the context of oppression (Kirmayer & Young, 1998). Some possible explanations for this cultural difference are that somatization might be a more culturally sanctioned expression of psychological distress among cultures where stigma surrounding mental illness is high (Bagayogo, Interian, & Escobar, 2013). It is also possible that somatization is a defensive strategy, as more affective expressions of internalizing symptoms (e.g. crying) may be interpreted as a sign of weakness in certain communities, as aforementioned (e.g. Attar et al., 1994). For youth of color, rates of somatic symptoms may be masking internalized distress and indicative of underlying rates of depression that are just being reported differently. Research among low-income, urban youth specifically has found that somatic complaints were the most commonly reported type of internalizing problems and these youth are more likely to score in the clinical range on somatic complaints than the general population (Grant et al., 2004; Reynolds et al., 2001). Assessing somatic symptoms may provide a more comprehensive picture of the true prevalence of depressive symptoms among adolescents of color from urban communities. Indeed, research has continued to demonstrate the impact of chronic trauma exposure on physiological body responses, highlighting the importance of studying this phenomenon in the context of trauma (van der Kolk, 2015)

Given the high incidence of somatization presenting in this population, it is important to consider these symptoms in the prediction of community violence exposure. One study of 1,520 urban, low-income youth ages 11-16 found that somatic complaints were more likely to co-occur with aggressive symptoms than should be expected in the general population based on normative data (Grant et al., 2004). Given that aggressive behaviors are also highly correlated with

community violence exposure (e.g. Borowsky & Ireland, 2004), somatic symptoms may be an important indicator of this relationship. In addition, some studies have demonstrated that somatic symptoms are correlated with both witnessing and being a victim of community violence in samples of African American youth ages 6-13 (Bailey, Delaney-Black, Hannigan, Ager, Sokol, & Covington, 2005; Hart, Hodgkinson, Belcher, Hyman, & Cooley-Strickland, 2013). Despite these correlational studies, little is understood about the direction of this relationship. Only one known study has examined this relationship longitudinally in a sample of urban, predominantly African American adolescents and found that adolescents who reported more headaches and abdominal pain reported increased violence victimization 6 months later (White & Farrell, 2006). Because high rates of somatization among urban minority youth may also underscore high rates of depression, these symptoms should be considered in the prediction of community violence exposure for youth of color.

### ***Depressogenic cognitions.***

One commonly researched cognitive symptom of depression is a sense of hopelessness for the future. Hopelessness towards the future comprises negative expectations for the future and low expectations that desired outcomes will occur (Joiner & Wagner, 1995). Hopelessness for the future may be especially relevant to examine in the context of community violence exposure, as research has demonstrated that low-income urban youth of color who are exposed to chronic, uncontrollable stressors demonstrate heightened levels of hopelessness and an increased perception that the future is too uncertain and unpredictable for which to plan (e.g., Landis, Gaylord-Harden, & Malinowski et al., 2007; Bolland et al., 2001).

While hopelessness is correlated with community violence exposure in community-based

samples of youth (e.g. So, Gaylord-Harden, Voisin, & Scott, 2015; Ceballo, Ramirez, Hearn, & Maltese, 2003; DuRant et al., 1994; Bolland et al., 2001; Bolland et al., 2003), this research is largely cross-sectional and only one known prospective, longitudinal study has specifically examined hopelessness toward the future as a predictor of community violence exposure. This study examined the predictive role of depressive symptoms in a sample of ethnic minority male adolescents aged 14-18 who were involved in the juvenile justice system and found that low hope for the future has a direct effect on increased community violence victimization one year later even when controlling for prior violence victimization (Burnside & Gaylord-Harden, 2018).

***Suicidal thoughts and behaviors.***

One understudied component of depression in adolescents of color is suicidal thoughts and behaviors and ways in which they relate to adverse experiences. Research on contextual factors related to suicide in minority youth remains highly understudied and less understood when compared to Caucasian youth (Bennett Jr. & Joe, 2015). For example, when comparing African American youth who had just presented to a juvenile detention center to their European American counterparts, African American youth had significantly higher mortality rates, but none of these deaths were classified as suicides (Teplin, McClelland, Abram, & Mileusnic, 2005). On the one hand, this may suggest that blacks have better access to factors that protect against suicide (Borowsky, Ireland, & Resnick, 2001), however it also might suggest a more complex relationship, in which suicidal thoughts and behaviors may manifest differently among high-risk, urban, African American youth. Research has demonstrated that African American individuals who die by suicide are on average much younger and less likely than whites to exhibit expected indicators of suicide risk such as endorsing worthlessness, a family history of



suicide, or a history of previous attempts (Garlow, Purselle, & Heninger, 2005; Willis, Coombs, Drentea, & Cockerham, 2003). In fact, some researchers suggest that high rates of homicide may be “masking” suicide rates in these populations such that youth are engaging in reckless and risky behavior that puts their life in danger in place of more typical suicidal behaviors (e.g. Knox, Conwell, & Caine, 2004). Relatedly, some research has suggested that cause of death is more likely to be misclassified among African Americans when compared to white individuals (Rockett et al., 2010). A recent opinion piece in the *Journal of American Medical Association Psychiatry* discussed the role of intention and desire to die as the key distinguishing factor between suicide and a death being classified as an accident in the context of the recent opioid epidemic in the United States (Rockett & Caine, 2015). This concept of “intentionally life-threatening behavior” has also been discussed in the context of other high-risk behaviors such as drug overdoses, engagement in Russian roulette, gang involvement or “suicide by cop” (Wasserman & Stack, 2011; Patton & Fremouw, 2016). In a qualitative account of the lives of gang-involved individuals, one youth commented, “Homies, more often than not, just decide to put themselves in harm’s way when things turn bleakest. They just take a stroll into their enemy’s domain. Gangbanging is how they commit suicide” (Boyle, 2011; p. 126). Indeed, these “more socially acceptable form[s] of suicide” may be prevalent among violence-exposed youth in urban environments but less understood (Wasserman & Stack, 2011).

Many studies have demonstrated that exposure to community violence exposure predicts an incremental increase in suicidal thoughts and behaviors among youth (e.g., Vermeiren, Ruchkin, Leckman, Deboutte, & Schwab-Stone, 2002; Pastore, Fisher, & Friedman, 1996). However, most of this research has focused on this relationship among clinical or small

community samples, and there is still a relative paucity of research that has critically examined the relationship between community violence exposure and suicidality among urban African American and Latino youth specifically (Bennett Jr. & Joe, 2015). Given recent estimates that rates of suicide are increasing among black American males between the ages of 15-24 (Joe et al., 2009; Hooper et al., 2017), examining this phenomenon in this population specifically is especially warranted. Existing research on this population has found mixed results on the relationship between community violence exposure specifically and suicide. One study found that, among African American and Latino urban youth there was no direct relationship between community violence exposure and suicidality, but these variables were indirectly related through increases in depressive symptoms and substance abuse (Bennett Jr., & Joe, 2015). However, other studies have found a significant relationship. Specifically, exposure to community violence has been found to predict future suicidal thoughts and behaviors in a sample of urban, African American middle school youth (Lambert et al., 2008), and a longitudinal examination of a sample of African American youth age 11-18 living in concentrated poverty found that the probability of a suicide attempt was significantly and positively related to an increase in levels of environmental stress (Hooper et al., 2017). Both of these studies suggest that there may be a complex relationship between a youth's environment and suicidal thoughts and behaviors that warrants further examination.

In sum, these findings for depressed affect, somatic symptoms, depressogenic cognitions, and suicidality provide preliminary support for the role of internalizing symptoms in the prediction of community violence exposure for youth but leave many questions unanswered that can be addressed by further research. First, one study examined this relationship among a

nationally representative sample of youth, whereas another focused on a high-risk, juvenile justice involved sample. Little is known about how this model will operate in a purposive sample of youth residing in an urban environment, as these youth are at uniquely high risk for violence exposure (Zimmerman & Messner, 2013; Voisin, 2007). Further, instead of controlling for demographic factors such as age, race, and gender, future research should examine how this relationship may operate differently among these groups. Additionally, these studies both used different measures of internalizing symptoms, and little is known about the specific components of depression that are playing a role in this model. Finally, little is known about the mechanisms of this relationship that may help to understand how or when depression is predictive of community violence exposure. In order to better inform intervention efforts, future research should conduct a more critical examination of the differential predictive utility of various components of depression and factors that may impact this relationship. The current study seeks to address these gaps.

### **The Role of Risky and Delinquent Behavior**

Given the aforementioned literature, it is proposed that depression, as defined by affective, somatic, cognitive, and suicidal symptoms, will have a direct effect on future levels of community violence exposure. In addition, it is proposed that engagement in risky or delinquent behavior may play a role this relationship. Research has suggested that depression may have an effect on engagement in risky behaviors. Specifically, studies of adolescents ages 11-17 have found that early depressive symptoms increased risk for future delinquent behaviors and these results were present based both on self-reported behaviors and a more objective measurement of court adjudication for juvenile delinquency (Kofler, McCart, Zajac, Ruggiero, & Saunders, 2011;

Mallett, Stoddard, & Seck, 2009). One study of 2,468 low-income, African American adolescents ages 9-19 found that feelings of hopelessness for the future were associated with engagement in multiple risk behaviors such as substance use, sexuality, violence perpetration, and accidental injury (Bolland, 2003). Another study of urban adolescents ages 9-19 found that hopelessness about the future significantly predicted violent behaviors (Bolland et al., 2001). An examination of a nationally representative sample of youth found that a perception of an early death predicted future fight-related injuries (Duke, Borowsky, Pettingell, Skay, & McMorris, 2011).

In addition, the literature has overwhelmingly demonstrated that engagement in risky and delinquent behaviors is predictive of increased community violence exposure, particularly victimization. For example, one study of youth ages 11 to 17 found that participants who engaged in delinquent behaviors such as theft, vandalism, or assault were 2-3 times more likely to be the victim of a future violent assault (Lauritsen, Laub, & Sampson, 1992). It has been hypothesized that an ecological-transactional model may help to explain this phenomenon such that youth who demonstrate externalizing symptoms may be engaging in more dangerous and risk-taking behaviors, which subsequently exposes them to more community violence (Lynch & Cicchetti, 1998; Lynch, 2003).

As such, youth with low mood who are hopeless towards their future may not be concerned with the consequences of engaging in violent or risky behavior (Stoddard, Zimmerman, & Bauermeister, 2012), which in turn may place youth at heightened risk for exposure to community violence, as research confirms that engagement in risky and delinquent behaviors places youth at increased risk for violent victimization in their communities (Jensen &

Brownfield, 1986; Lauritsen, Laub, & Sampson, 1992). Another study found evidence for a similar model such that, when controlling for gender and race, the relationship between depression and violent victimization in the community was fully mediated by drug use in a nationally representative sample of youth ranging in age from 11-21 (Azimi & Daigle, 2017). Similar results have been found in juvenile justice populations. One study of juvenile offenders ages 14-18 found that the relationship between hopelessness towards the future and victimization and witnessing of community violence one year later was mediated by engagement in risky behavior (Burnside & Gaylord-Harden, 2018). Indeed, some researchers theorize that youth engagement in externalizing and aggressive behaviors may be a method of coping with distress related to depression, which can in turn increase exposure to violence (Lambert, Nylund-Gibson, Copeland-Linder, & Ialongo, 2010).

Given the established relationship between depressive symptoms and engagement in delinquent behavior, as well as the relationship between delinquent behavior and violence exposure, examining these variables in a full model is warranted. The current study seeks to better understand the mechanisms of this relationship, and therefore tested competing models due to the exploratory nature of the analyses. Model 1 examined whether the relationship between depressive symptoms and community violence exposure is moderated by engagement in delinquent behavior (see Figure 1). Testing a moderation relationship best informs when a relationship exists. Specifically, depressive symptoms may be more strongly related to community violence exposure when delinquent behavior is high. The current study also tested whether there is an indirect relationship between depressive symptoms and community violence exposure through the engagement in delinquent behavior (see Figure 2). Examining indirect

effects best informs why a specific relationship exists and better explains the mechanisms of the relationship between depressive symptoms and community violence exposure. It is important to examine both moderator and mediator models as these analyses can differentially inform applied work. Identifying moderator effects may have more clinical implications, such that it can better identify which groups may be more resilient or vulnerable under certain conditions. Examining mediator effects may better inform the design of prevention programs, as it can serve to identify why a certain variable may have an effect on another (Evans & Lepore, 1997). Given the exploratory nature of the current study and the relative paucity of work specifically examining the role of depressive symptoms in the prediction of community violence exposure, identifying both moderator and mediator effects are an important contribution to the literature. In addition to examining competing models to better understand the mechanisms involved in the relationship between depressive symptoms, delinquent behavior, and violence exposure, the current study also expands on previous literature by examining gender and age differences in this relationship.

### ***The role of gender.***

Although the majority of community violence exposure research has been conducted on males specifically compared to female samples, research suggests that girls and boys make react differently to violence exposure (Fowler et al., 2009). For instance, many studies have found a stronger association between community violence exposure and internalizing and trauma symptoms for female youth, whereas males are often more likely to exhibit externalizing responses to community violence exposure (e.g., Mrug et al., 2008; Foster et al., 2004; Butcher, Galanek, Kretschmar, & Flannery, 2015; Jenkins & Bell, 1994; Grant, Lyons, & Finkelstein et al., 2004). However some research has found no gender differences in exposure to community

violence and internalizing outcomes (Gaylord-Harden, Cunningham, & Zelencik, 2011) and other studies have found that males may exhibit more internalizing symptoms than females. One study of urban, low-income and minority youth ages 11-16 found that males were more likely than females in the sample to score in the clinically significant range on a self-report measure internalizing subscale (Grant, Katz, & Thomas et al., 2004). Of note, this finding was partially explained by the gender-based cutoffs in the normative sample. Another study found that witnessing violence against someone the youth was familiar with led to boys experiencing greater anxiety than their female counterparts (Lambert et al., 2010). Other studies have demonstrated that males are more likely to react to community violence exposure with higher levels of hopelessness towards the future (Wallace, Neilands, & Phillips, 2017).

Regarding risky and delinquent behavior, although previous studies examining this relationship have been conducted on males only (e.g., Burnside & Gaylord-Harden, 2018), research suggests that girls may also engage in such behaviors that increase their risk for community violence exposure. For instance, one study of girls age 12-15 found that, compared to non-depressed girls, girls who were depressed were more likely to engage in property crime or crimes against others, even after controlling for SES (Obeidallah & Earls, 1999). Another study found that, in a sample of low-income, predominantly minority youth ages 11-16, girls were more likely than boys to score in the clinically significant range on the externalizing subscale of a self-report behavior measure (Grant, Katz, & Thomas et al., 2004). While this finding was partially explained by differences in the gender-based cutoffs in the normative sample, it highlights ways in which minority youth may exhibit symptoms differently than the sample upon which the measures were normed.

The type of violence exposure experienced by the youth may also play a role in this relationship. Specifically, one recent study suggests that the gender differences typically found in response to community violence exposure may be best explained by the type of violence exposure the youth experiences. For example, among a sample of urban African American and Hispanic youth age 6-17 receiving outpatient therapy services, victimization to community violence predicted increased risk for multiple mental health outcomes among both boys and girls (Javdani, Abdul-Adil, Suarez, Nichols, & Farmer, 2014). However, girls were more negatively impacted by hearing about violent acts committed against someone they knew than boys, and girls were more likely to exhibit externalizing behaviors in response to witnessing community violence exposure than boys (Javdani et al., 2014). Further, recent research that conducted a latent class analysis on youth exposed to community violence found that boys and girls may respond differently to community violence. Specifically, youth in the high internalizing, high community violence class were more likely to be girls than boys (Lambert, Tache, Liu, Nylund-Gibson, & Ialongo, 2019)

Taken together, the literature suggests that males and females may react differently to community violence exposure, and these differences in trajectories following violence exposure may influence their likelihood for future exposure. Little is known about the ways in which age, internalizing symptoms, and engagement in risky behavior interact with gender in the relationship to future violence exposure and the current study seeks to address this gap in the literature.

### ***The role of age.***

Researchers have continued to assert that a child's developmental level will impact the



way in which violence is experienced by the youth (Trickett, Duran, & Horn, 2003). Specifically, the age of a child as well as their developmental level may interact with various aspects of violence exposure, such as chronicity and the type of violent experience, as well as the way in which the youth responds to the event (Kennedy & Ceballo, 2014; Trickett, Duran, & Horn, 2003). In addition to this, meta-analyses have suggested that age may moderate the effects of community violence exposure on various outcomes. For instance, younger children are more likely to demonstrate internalizing symptoms in response to community violence exposure, whereas adolescents tend more towards externalizing symptoms (Fowler et al., 2009). While some research on variables that may predict future community violence exposure has been conducted on middle school youth (e.g., Lambert et al., 2005), no known studies to date have examined the relationship between depressive symptoms and community violence exposure in younger children. The current study seeks to address this gap in the literature.

### **Current Study**

Research has overwhelmingly demonstrated that ethnic minority youth residing in low-income, urban communities in the United States are disproportionately impacted by community violence exposure (Voisin, 2007). Although substantial strides have been made in determining factors that may buffer the negative outcomes following community violence exposure, it is important to examine factors that may prevent exposure to community violence from occurring in the first place in order to better inform prevention efforts. Although demographic factors have been identified that put youth at increased risk for community violence exposure, person-based analyses have continually demonstrated that there is still significant variability in levels of violence exposure, even among these high-risk populations (O'Donnell, Schwab-Stone, &

Muyeed, 2002; Gaylord-Harden, Dickson, & Pierre, 2015). In addition, the reciprocal-stress model posits that stressful life experiences and mental health symptoms can demonstrate a bidirectional and mutual influence on one another (Kim et al., 2003). For this reason, examining individual, psychological, factors that may serve a predictive role for future violence exposure is especially important. Although the literature on externalizing behaviors is more established, research suggests that depressive symptoms, specifically, may be particularly relevant in the prediction of community violence exposure over time. In addition, research suggests that engagement in delinquent behavior may help to explain the proposed association between depressive symptoms and community violence exposure.

Therefore, the primary objective of the current study is to utilize longitudinal data with ethnic minority youth to understand the role of various components of internalizing symptomatology in contributing to the prediction of future community violence exposure and the role of engagement in risky or delinquent behavior as a mechanism in this relationship. The current study expands on previous literature by examining this model in a community-based sample and tests competing mediation and moderation models in order to gain a better understanding of the specific mechanisms underlying this relationship. In addition, the current study examines age and gender differences in the proposed relationship. Examining factors that may serve to distinguish which youth are at increased risk for community violence exposure may serve as an important step in the prevention of community violence exposure. Specifically, individual, psychological factors may be malleable aspects of intervention that can be targeted early on in an attempt to prevent community violence exposure from occurring in the first place. The aims and hypotheses of the current study are as follows:

- Aim 1: Examine the direct association between depressive symptoms and violence exposure 1 year later, controlling for previous levels of violence exposure.
  - Hypothesis 1a: Higher levels of Time 1 depressive symptoms (somatic symptoms, depressive cognitions, depressed affect, and suicidal ideation) will be related to higher levels of Time 2 witnessing, controlling for Time 1 witnessing.
  - Hypothesis 1b: Higher levels of Time 1 depressive symptoms (somatic symptoms, depressive cognitions, depressed affect, and suicidal ideation) will be related to higher levels of Time 2 victimization, controlling for Time 1 victimization.
- Aim 2: Determine whether the relationship between depressive symptoms and violence exposure 1 year later is moderated by engagement in delinquent behavior, and examine gender and age differences in this relationship.
  - Hypothesis 2a: The relationship between Time 1 depressive symptoms and Time 2 witnessing violence will be moderated by Time 1 engagement in delinquent behavior such that for youth who engage in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 witnessing violence will be stronger.
  - Hypothesis 2b: The relationship between Time 1 depressive symptoms and Time 2 violence victimization will be moderated by Time 1 engagement in delinquent behavior such that for youth who engage in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 violence victimization will be stronger.
  - Hypothesis 2c: There will be a three-way interaction between Time 1 depressive

- symptoms, Time 1 delinquent behavior, and gender in the prediction of Time 2 community violence exposure such that the relationship will be stronger for males who exhibit high levels of delinquent behavior.
- Hypothesis 2d: There will be a three-way interaction between Time 1 depressive symptoms, Time 1 delinquent behavior, and age in the prediction of Time 2 community violence exposure such that the relationship will be stronger for older youth who exhibit high levels of delinquent behavior.
  - Aim 3: Determine whether there is an indirect relationship between depressive symptoms and violence exposure 1 year later through engagement in delinquent behavior, and examine gender and age differences in this relationship.
    - Hypothesis 3a: The relationship between Time 1 depressive symptoms and Time 2 witnessing violence will be mediated by higher Time 2 engagement in delinquent behavior.
    - Hypothesis 3b: The relationship between Time 1 depressive symptoms and Time 2 violence victimization will be mediated by higher Time 2 engagement in delinquent behavior
    - Hypothesis 3c: Gender will moderate this mediated relationship such that the relationship will be stronger for males than females.
    - Hypothesis 3d: Age will moderate this mediated relationship such that the relationship will be stronger for older youth than younger youth.

## CHAPTER THREE

### METHODS

#### **Participants and Procedure**

The current study utilized data from a larger longitudinal study that sought to examine how families, schools, and neighborhoods influence child and adolescent development. The Project on Human Development in Chicago Neighborhoods (PHDCN; Sampson, 2012; Earls & Visher, 1997) collected data over seven years on children, adolescents, and their primary caregivers. Participants were recruited through use of a multi-stage probability sample. Data from the 1990 U.S. Census were utilized, and each of the 847 census tracts were collapsed to produce 343 neighborhood clusters (NCs). The formation of NCs was primarily guided by knowledge of Chicago neighborhoods and incorporation of meaningful census indicators. NCs were then stratified based on race/ethnicity and socioeconomic status, resulting in 21 unique strata. Finally, a probability sample of 80 NCs was drawn, and the sample for the Longitudinal Cohort Study was recruited from these resulting NCs. For the Longitudinal Cohort Study, approximately 800-900 participants from each of the seven cohorts based on age at Wave 1 (birth/0, 3, 6, 9, 12, 15, and 18 years old) were recruited. Wave 1 was conducted from 1994-1997 and had a response rate of 75%. Wave 2 was conducted between 1997-2000 with 86% of the original sample retained, and Wave 3 retained 77% of the original sample with data being collected from 2000-2002 (Sampson, 2012; Martin & Schoua-Glusberg, 2002).

Through primarily face-to-face interviews, participants and their primary caregivers

completed measures on various psychological, behavioral, and academic information. Of note, distinct research assistants administered caregiver and youth interviews. For those participants who declined in-person interviews, surveys were administered via telephone. Participants were reimbursed \$5-\$20 per interview, and compensation varied based on age of participant and wave of data collection.

The current study utilized data from youth who were in the 9, 12, and 15 year cohort during the first wave of data collection. For the current analyses, Waves 2 and 3 of data collection were utilized due to missing variables in Wave 1. The current study included ethnic minority youth only. Research has demonstrated higher rates of violence exposure among African American and Hispanic youth, even when controlling for socioeconomic status, suggesting that minority youth may possess unique, individual level and systemic risk factors when compared to European American youth, underscoring the importance of examining this phenomenon in this population uniquely (Crouch, Hanson, Saunders, Kilpatrick, & Resnick, 2000). The current study utilized data from 1450 youth (49.8% female). Youth ranged in age from 9.12-19.89 at the second Wave of data collection ( $M = 14.03$ ,  $SD = 2.51$ ). The sample was 56.6% Latino and 43.4% African American.

## **Measures**

### ***Demographics.***

Demographic measures collected information on youth age, gender and race/ethnicity.

### ***Exposure to Community Violence.***

Exposure to community violence was examined using participants' responses to the My Exposure to Violence Questionnaire (ETV, Selner-O'Hagan, Kindlon, Buka, Raudenush, & Earls, 1998). Questions assess how often youth have experienced varying violent incidents and

are rated either as “once,” “2 or 3 times,” “4 or 10 times,” or “more than 10 times” either in their lifetime or within the past 12 months. Nine questions assess victimization (such as “Have you ever been chased where you thought you might be seriously hurt”), and eight items evaluate experiences of witnessing violence (e.g. “Have you ever seen someone else being raped, an attempt made to rape someone or any other type of sexual attack”). A total/sum victimization and total witnessing scale were computed that represents the count of items endorsed within the last 12 months at both timepoints. The My ETV measure has demonstrated adequate validity in the PHDCN sample (e.g., Jain & Cohen, 2013; Wright, Fagan, & Pinchevsky, 2013; Kuo, Mohler, Raudenbush, & Earls, 2000).

### ***Depressed Affect.***

Depressed affect was examined using participants’ responses to the Youth Self Report (YSR; Achenbach, 1991). The Youth Self Report is a measure designed to assess behavioral and emotional competencies and problems in youth across a wide range of internalizing and externalizing symptoms. The YSR was administered to the 9, 12, and 15 year cohorts. The Withdrawn/Depressed index was used which is a summary measure reflecting depressive symptoms such as feeling lonely. (Achenbach, 1991; Boots, Wareham, & Weir, 2011).

### ***Somatic Complaints.***

Youth self-reported on their psychological symptoms using the Youth Self Report (Achenbach, 1991). The Youth Self Report was administered to the 9, 12, and 15 year cohorts. This measure produces a variety of symptom subscales, and the Somatic Complaints subscale will be utilized to represent somatic complaints. This 7-item subscale contains items to assess the physical manifestation of psychological complaints such as (“have you had any physical problems without a known medical cause, such as nausea or feeling sick?”).

### ***Depressive Cognitions.***

Was measured using a questionnaire designed for the PHDCN study. The “Things I Can Do If I Try” measure is composed of five domains assessing various components of self-efficacy. The Future efficacy subscale is composed of 5 items (e.g., ‘I can make my life better’ or ‘I can become successful’ ‘I can go far in this world.’ Each item is presented as two parallel statements and the participant is asked to rate them on a 4-point response scale. Items were recoded so that higher scores indicate more self-efficacy, with lower scores representing hopelessness.

### ***Suicide Risk.***

Suicide risk was measured using The Suicide Interview, which was adapted from a section of the Major Depression Disorder module of the Diagnostic Interview Schedule for Children (DISC-4). This semi-structured interview assesses suicidal thoughts and behaviors experienced by the youth themselves as well as close friends/family. Items include “Has there ever been a time when you often thought about death or about people who had died or about being dead yourself?” and “have you ever tried to kill yourself or made a suicide attempt?” Three items from the youth experiences scale that were asked to every youth were utilized in the current study and summed to create a severity score ranging from 0-4. Of note, The Suicide Interview was only administered to the 12 and 15 year cohorts, so these exploratory analyses were only conducted on the older youth. This is consistent with literature that suggests that suicidal thoughts and behaviors tend to increase during the adolescent years (e.g., Bridge, Goldstein, & Brent, 2006).

### ***Delinquent Behavior.***

Risky and delinquent behaviors were assessed using the Self-Report of Delinquency



measure (Loeber, Stouthamer-Loeber, Van Kammen, & Farrington, 1989). This 35-item dichotomously measures adolescent's account of their involvement in illegal and antisocial activities with questions such as "carried a hidden weapon" or "ran away from home and stayed overnight." A sum score of the frequency of offenses endorsed was utilized in the current study. The Self-Report Delinquency measure has demonstrated adequate validity in the PHDCN sample (e.g., Fagan & Wright, 2012).

## CHAPTER FOUR

### RESULTS

#### **Preliminary and Descriptive Analyses**

Outcome variables were examined for normality using SPSS Version 26.0 (IBM Corp, 2019). Both witnessing violence at Time 2 and violence victimization at Time 2 were highly skewed, so the variables were transformed using a square root transformation to approximate a normal distribution before regression analyses. Of note, the transformation reduced skewness, but the variables still remained skewed after the transformation. The transformed variables were only utilized for the regression analyses for Aim 1. The remaining research aims utilized the PROCESS macro, which is a nonparametric resampling procedure and does not impose the assumption of normality on the sampling distribution (Hayes, 2018).

Means, standard deviations, and bivariate correlations among study variables are presented in Table 1. Notably, Time 1 depressed affect was not correlated with witnessing community violence at Time 1 or Time 2. Somatic symptoms were also not correlated with Time 2 delinquency, Time 2 witnessing, or Time 2 victimization.

Descriptive analyses were conducted in order to determine whether any of the variables of interest differed by age, sex, or race/ethnicity. A one-way ANOVA was conducted to examine sex differences. Results revealed that, compared to female participants, male participants experienced higher levels of Time 2 violence victimization ( $F [1, 633] = 7.38, p = .007, MD = 0.15$ ) as well as Time 1 and Time 2 witnessing violence ( $F [1, 1302] = 11.95, p < .001, MD =$

0.39;  $F [1, 1075] = 12.87, p < .001, MD = 0.43$ , respectively). Males also reported higher levels of delinquent behavior at both Time 1 ( $F [1, 1368] = 17.16, p < .001, MD = 0.59$ ) and Time 2 ( $F [1, 1121] = 42.36, p < .001, MD = 0.89$ ) than females. Compared to males in the sample, females reported higher levels of mental health symptoms including suicide severity ( $F [1, 428] = 8.46, p = .004, MD = 0.22$ ), somatic symptoms ( $F [1, 1250] = 35.17, p < .001, MD = 1.05$ ) and depressed affect ( $F [1, 1250] = 15.2, p < .001, MD = 0.47$ ).

A one-way ANOVA was conducted to examine racial/ethnic differences in study variables. Results revealed that African American youth witnessed more violence at Time 1 ( $F [1, 1302] = 53.08, p < .001, MD = 0.82$ ) and Time 2  $F [1, 1075] = 24.47, p < .001, MD = 0.59$ ) compared to Latino youth. African American youth also experienced more victimization at Time 2 than Latino youth ( $F [1, 1370] = 38.02, p < .001, MD = 0.45$ ). Delinquency differed significantly at both Time 1 and Time 2 such that African American youth reported higher rates of delinquent behavior than Latino youth ( $F [1, 1368] = 25.44, p < .001, MD = 0.72$ ;  $F [1, 1121] = 12.71, p < .001, MD = 0.50$ , respectively). Finally, Latino youth reported higher levels of depressed affective symptoms than African American youth ( $F [1, 1250] = 6.45, p = .011, MD = 0.31$ ).

Bivariate correlations were conducted to examine the association between participant age and study variables. Results revealed that age was associated with levels of witnessing community violence at Time 1 ( $r = .28, p < .001$ ) and Time 2 ( $r = .13, p < .001$ ) and levels of violence victimization at Time 1 ( $r = .11, p < .001$ ). Age was also associated with levels of both Time 1 and Time 2 delinquent behavior ( $r = .22, p < .001$ ;  $r = .16, p < .001$ , respectively), hope for the future ( $r = .092, p = .001$ ) and suicide severity ( $r = .16, p < .001$ ). Age was negatively related to somatic symptoms ( $r = -.06, p = .024$ ).

## **Aim 1**

In order to test Aim 1, which examined the direct association between depressive symptoms and violence exposure 1 year later, four separate hierarchical linear regressions were conducted in SPSS Version 26.0.

### ***Hypothesis 1a.***

To test Hypothesis 1a, that higher levels of Time 1 depressive symptoms are related to higher levels of Time 2 witnessing, the first set of models examined the direct relationship between Time 1 depressive symptoms and Time 2 witnessing violence. Time 1 witnessing violence was entered in Step 1 of the models in order to control for prior levels of witnessing. Step 2 of the models included either Time 1 levels of depressed affect, somatic symptoms, depressive cognitions or suicide symptoms in the prediction of Time 2 witnessing. Results revealed that Time 1 hope for the future ( $p = .59$ ), Time 1 suicide severity ( $p = .86$ ),

Time 1 somatic problems ( $p = .59$ ), and Time 1 depressed affect/withdrawal symptoms ( $p = .92$ ) did not predict witnessing 1 year later. An additional model was tested with all predictor variables in the model in order to better understand whether one component of depressive symptomology was a stronger predictor. Results revealed that Time 1 witnessing violence significantly predicted Time 2 witnessing violence ( $t [304] = 7.58$ ,  $b = .14$ ,  $p < .001$ ). No other variables significantly predicted Time 2 witnessing.

### ***Hypothesis 1b.***

To test hypothesis 1b, that higher levels of Time 1 depressive symptoms are related to higher levels of Time 2 violence victimization, the second set of models examined the direct relationship between Time 1 depressive symptoms and Time 2 violence victimization. Time 1 violence victimization was entered in Step 1 of the models in order to control for prior levels of

victimization. Step 2 of the models then included Time 1 levels of either depressed affect, somatic symptoms, depressive cognitions, and suicidal thoughts in the prediction of Time 2 violence victimization. Results revealed that Time 1 hope for the future significantly predicted Time 2 violence victimization such that lower levels of hope for the future predicted an increase in violence victimization ( $t [428] = -2.11, b = -.03, p = .04$ ). Time 1 suicide symptoms also predicted Time 2 victimization such that higher levels of suicide symptom severity predicted an increase in violence victimization ( $t [193] = 1.98, b = .13, p = .05$ ). Time 1 depressed affect/withdrawal symptoms significantly predicted Time 2 violence victimization such that higher levels of withdrawal symptoms predicted an increase in violence victimization ( $t [389] = 3.69, b = .05, p < .001$ ). Time 1 somatic symptoms did not significantly predict Time 1 violence victimization ( $p = .22$ ). An additional model was tested with all predictor variables in the model in order to better understand whether one component of depressive symptomology was a stronger predictor. Results of the model revealed that Time 1 depressed affect significantly predicted Time 2 violence victimization ( $t [178] = 2.13, b = .06, p = .03$ ). No other variables significantly predicted Time 2 victimization.

## **Aim 2**

In order to test Aim 2, whether the relationship between depressive symptoms and violence exposure 1 year later is moderated by engagement in delinquent behavior, and examine gender and age differences in this relationship, eight separate models were tested using PROCESS version 3 bootstrapping procedure for SPSS ( $n = 10,000$  bias corrected bootstrap samples; Hayes, 2018). Bootstrapping is a nonparametric resampling procedure that does not impose the assumption of normality of the sampling distribution and provides the most powerful and reasonable method of obtaining confidence limits for specific indirect effects (Preacher &

Hayes, 2008; Hayes, 2018).

***Hypothesis 2a.***

Hypothesis 2a predicted that the relationship between Time 1 depressive symptoms and Time 2 witnessing violence would be moderated by Time 1 engagement in delinquent behavior such that for youth who engage in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 witnessing violence would be stronger. Four separate models were run to examine each predictor individually (depressed affect, somatic symptoms, depressive cognitions, and suicidal thoughts) and each model controlled for Time 1 levels of victimization. There was a significant interaction between Time 1 somatic symptoms and Time 1 delinquent behavior in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence),  $b = -.02$ ,  $p = .03$ . The significant interaction was probed using the Johnson-Neyman technique (Hayes, 2018). The Johnson-Neyman technique is utilized to identify points along a continuous moderator where the relation between the independent variable and the outcome variable transition between being statistically significant to nonsignificant (Hayes, 2018). Results revealed that the significance region for the interaction between somatic symptoms at Time 1 and delinquent behavior at Time 1 was defined at moderate and high levels of delinquent behavior, such that the association between somatic symptoms and witnessing violence was significant at values of delinquency 4.29 and larger, but not for values less than 4.29. Specifically, somatic symptoms at Time 1 significantly predicted decreases in witnessing violence at Time 2 at moderate and high levels of delinquent behavior at Time 1 ( $b = -.04$ ,  $SE = .02$ ,  $p = .05$ , 95%CI  $[-0.08, -0.00]$ ), but not at low levels of delinquent behavior. See Figure 1. There was no significant interaction between Time 1 low hope for the future and Time 1 delinquent behavior in the prediction of Time 2 witnessing violence (while

controlling for Time 1 witnessing violence)  $b = .01$ ,  $p = .19$ , 95% CI  $[-.01, .03]$ . There was no significant interaction between Time 1 suicide symptoms (within the last year) and Time 1 delinquent behavior in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $b = .02$ ,  $p = .68$ , 95%CI  $[-.07, .11]$ . There was no significant interaction between Time 1 depressed affect and Time 1 delinquent behavior in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $b = .004$ ,  $p = .74$ , 95%CI  $[-.02, .02]$ .

### ***Hypothesis 2b.***

Hypothesis 2b predicted that the relationship between Time 1 depressive symptoms and Time 2 violence victimization would be moderated by Time 1 engagement in delinquent behavior such that for youth who engage in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 violence victimization will be stronger. Four additional separate models were run to examine each variable individually in the prediction of community violence exposure. Each model controlled for Time 1 levels of violence victimization. There was a significant interaction between Time 1 low hope for the future and Time 1 delinquent behavior in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization),  $b = .01$ ,  $p = .04$ . The significant interaction was probed using the Johnson-Neyman technique and results revealed that the significance region for the interaction between low hope for the future and delinquent behavior at Time 1 was defined at low and moderate levels of delinquency, such that the association between low hope for the future and violence victimization was significant at values of delinquency 3.52 and smaller, but not for values greater than 3.52. Specifically, low hope for the future at Time 1 significantly predicted increases in violence victimization at Time 2 at low and moderate levels of delinquent

behavior at Time 1 ( $b = -.04$ ,  $SE = .02$ ,  $p = .05$ , 95% CI  $[-.08, -.00]$ , but not at high levels of delinquent behavior. See Figure 2. There was no significant interaction between Time 1 suicide symptoms in the past year and Time 1 delinquent behavior in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $b = .01$ ,  $p = .72$ , 95%CI  $[-.05, .07]$ . There was no significant interaction between Time 1 depressed affect/withdrawal symptoms and Time 1 delinquent behavior in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $b = .00$ ,  $p = .91$ , 95%CI  $[-.02, .02]$ . There was not a significant interaction between Time 1 somatic symptoms and Time 1 delinquent behavior in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $b = -.005$ ,  $t(385) = -.97$ ,  $p = .33$ , 95%CI  $[-.02, .01]$ .

### ***Hypothesis 2c.***

To test Hypothesis 2c, which posits that there will be a three-way interaction between Time 1 depressive symptoms, Time 1 delinquent behavior, and gender in the prediction of Time 2 community violence exposure such that the relationship will be stronger for males who exhibit high levels of delinquent behavior, moderated moderation, or a three-way interaction, was tested (Hayes, 2018). Hypothesis 2c determines whether the effect of the primary moderator (Time 1 delinquency) on the relationship between Time 1 depressive symptoms and Time 2 community violence exposure is dependent on the secondary moderator of gender. This interaction will not require further probing, as PROCESS automatically generates the conditional effect of the moderator for each level of multi-categorical moderator variables (Hayes, 2018).

For witnessing violence as the outcome, four models were tested, one for each depressive symptom as the predictor variable and gender as the moderator. There was no significant 3-way interaction between Time 1 low hope for the future, Time 1 delinquent behavior, and gender in



the prediction of Time 2 witnessing violence  $b = .01$ ,  $p = .60$ . There was no significant 3-way interaction between Time 1 suicide severity, Time 1 delinquent behavior and gender in the prediction of Time 2 witnessing violence  $b = .11$ ,  $t(315) = 1.05$ ,  $p = .29$ . There was no significant 3-way interaction between Time 1 depressed affect/withdrawal symptoms, Time 1 delinquent behavior, and gender in the prediction of Time 2 witnessing violence  $b = -.01$ ,  $t(912) = -.62$ ,  $p = .54$ . There was no significant 3-way interaction between Time 1 somatic symptoms, Time 1 delinquent behavior, and gender in the prediction of Time 2 witnessing violence  $b = .01$ ,  $t(912) = .80$ ,  $p = .42$ .

For violence victimization as the outcome, four models were tested, one for each depressive symptom as the predictor variable and gender as the moderator. There was a significant 3-way interaction between Time 1 low hope for the future, Time 1 delinquent behavior, and sex in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization;  $b = .03$ ,  $p = .03$ ). At low levels of delinquent behavior, low hope for the future predicts high levels of violence victimization for males ( $b = -.08$ ,  $p = .03$ ) but not for females ( $b = -.05$ ,  $p = .21$ ). At moderate levels of delinquent behavior, low hope for the future predicts higher levels of violence victimization for females ( $b = -.06$ ,  $p = .04$ ) but not for males ( $b = -.04$ ,  $p = .12$ ). At high levels of delinquent behavior, low hope for the future predicted higher levels of violence victimization for females ( $b = -.09$ ,  $p = .05$ ) but not for males ( $b = .04$ ,  $p = .27$ ). See Figure 3. There was no significant 3-way interaction between Time 1 suicide severity, Time 1 delinquent behavior and gender in the prediction of Time 2 violence victimization  $b = -.02$ ,  $p = .80$ . There was no significant 3-way interaction between Time 1 depressed affect/withdrawal symptoms, Time 1 delinquent behavior and gender in the prediction of Time 2 violence victimization  $b = -.00$ ,  $p = .96$ . There was no significant 3-way interaction

between Time 1 somatic symptoms, Time 1 delinquent behavior and gender in the prediction of Time 2 violence victimization  $b = .00$ ,  $p = .96$ .

***Hypothesis 2d.***

Hypothesis 2d predicted that there would be a three-way interaction between Time 1 depressive symptoms, Time 1 delinquent behavior, and age in the prediction of Time 2 community violence exposure such that the relationship would be stronger for older youth who exhibit high levels of delinquent behavior. This was tested using moderated moderation to determine whether the effect of the primary moderator (Time 1 delinquency) on the relationship between Time 1 depressive symptoms and Time 2 community violence exposure is dependent on the secondary moderator of age.

For witnessing violence as the outcome, four models were tested, one for each depressive symptom as the predictor variable and age as the moderator. There was no significant 3-way interaction between Time 1 low hope for the future, Time 1 delinquent behavior, and age in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $b = .01$ ,  $p = .13$ . There was no significant 3-way interaction between Time 1 suicide severity, Time 1 delinquent behavior, and age in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $b = .01$ ,  $p = .58$ . There was no significant 3-way interaction between Time 1 withdrawal/depressed affect, Time 1 delinquent behavior, and age in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $b = -.01$ ,  $p = .08$ .

There was no significant 3-way interaction between Time 1 somatic symptoms, Time 1 delinquent behavior, and age in the prediction of Time 2 witnessing violence (while controlling for Time 1 witnessing violence)  $t(912) = -1.67$ ,  $b = -.01$ ,  $p = .10$ .

For violence victimization as the outcome, four models were tested, one for each depressive symptom as the predictor variable and age as the moderator. There was a significant 3-way interaction between Time 1 low hope for the future, Time 1 delinquent behavior, and age in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $b = .01$ ,  $p = .04$ . The interaction was probed using the Johnson-Neyman Technique which revealed that for youth over the age of 16.26, the interaction between Time 1 low hope for the future and Time 1 delinquent behavior significantly predicted Time 2 violence victimization  $b = .01$ ,  $SE = .01$ ,  $p = .05$ , 95% CI [.00, .02]. See Figure 4. There was no significant 3-way interaction between Time 1 suicide severity, Time 1 delinquent behavior, and age in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $t(185) = .15$ ,  $b = .00$ ,  $p = .88$ . There was no significant 3-way interaction between Time 1 withdrawal symptoms/depressed affect, Time 1 delinquent behavior, and age in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $t(381) = -1.61$ ,  $b = -.00$ ,  $p = .11$ . There was no significant 3-way interaction between Time 1 somatic symptoms, Time 1 delinquent behavior, and age in the prediction of Time 2 violence victimization (while controlling for Time 1 violence victimization)  $t(381) = -.99$ ,  $b = -.00$ ,  $p = .32$ .

### **Aim 3**

In order to test Aim 3, which determines whether there is an indirect relationship between depressive symptoms and violence exposure 1 year later through engagement in delinquent behavior, and examined gender and age differences in this relationship, eight separate models were tested using PROCESS version 3 bootstrapping procedure for SPSS ( $n = 10,000$  bias corrected bootstrap samples; Hayes, 2018).

### ***Hypothesis 3a.***

To test Hypothesis 3a, which states that the relationship between Time 1 depressive symptoms and Time 2 witnessing violence would be mediated by Time 2 engagement in delinquent behavior, four separate models were run to examine each predictor individually (depressed affect, somatic symptoms, depressive cognitions, and suicidal thoughts) and each model controlled for Time 1 levels of witnessing. There was a significant indirect relationship between Time 1 somatic symptoms and Time 2 witnessing violence through engagement in Time 2 delinquent behavior ( $b = -.02$ , 95% CI  $[-.03, -.002]$ ) such that lower levels of Time 1 somatic symptoms predicted higher levels of Time 2 witnessing violence through engagement in Time 2 delinquent behavior. See Figure 5. There was no significant indirect relationship between low Time 1 hope for the future and Time 2 witnessing violence through Time 2 delinquent behavior ( $b = -.01$ , 95% CI  $[-.03, .01]$ ). There was no significant indirect relationship between Time 1 suicide symptoms and Time 2 witnessing violence through Time 2 delinquent behavior ( $b = .03$ , 95% CI  $[-.07, .15]$ ). There was no significant indirect relationship between Time 1 withdrawal/depressed affect symptoms and Time 2 witnessing violence through Time 2 delinquent behavior ( $b = -.02$ , 95% CI  $[-.04, .00]$ ).

### ***Hypothesis 3b.***

Hypothesis 3b, which posits that the relationship between Time 1 depressive symptoms and Time 2 violence victimization would be mediated by higher Time 2 engagement in delinquent behavior similarly examines the indirect effect of Time 1 depressive symptoms on Time 2 violence victimization through Time 2 delinquency using four separate models all controlling for Time 1 victimization. There was a significant indirect relationship between Time 1 withdrawal/depressed affect and Time 2 violence victimization through Time 2 delinquent

behavior ( $b = -.03$ , 95%CI  $[-.05, -.01]$ ) such that lower levels of Time 1 withdrawal/depressed affect predict increased levels of Time 2 violence victimization through engagement in Time 2 delinquent behavior. See Figure 6. There was no significant indirect relationship between low Time 1 hope for the future and Time 2 violence victimization through Time 2 delinquent behavior ( $b = -.01$ , 95% CI  $[-.03, .02]$ ). There was no significant indirect relationship between Time 1 suicide symptoms and Time 2 violence victimization through Time 2 delinquent behavior ( $b = -.02$ , 95% CI  $[-.11, .09]$ ). There was no significant indirect relationship between Time 1 somatic symptoms and Time 2 violence victimization through Time 2 delinquent behavior ( $b = -.02$ , 95% CI  $[-.03, .00]$ ).

### ***Hypothesis 3c.***

Hypothesis 3c, which predicted that gender would moderate the relationship between Time 1 depressive symptoms and Time 2 delinquency, as well as the relationship between Time 1 depressive symptoms and Time 2 community violence exposure, such that the relationships would be stronger for males than for females was tested using a moderated mediation (Hayes, 2018). This interaction will not require further probing, as PROCESS automatically generates the conditional effect of the moderator for each level of multi-categorical moderator variables (Hayes, 2018). Gender did not significantly moderate the relationship between Time 1 suicide symptoms and Time 2 delinquent behavior ( $b = 1.05$ ,  $p = .07$ ) or the relationship between Time 1 suicide symptoms and Time 2 violence victimization ( $b = -.08$ ,  $p = .69$ ). Gender did not significantly moderate the relationship between Time 1 low hope for the future and Time 2 delinquent behavior ( $b = .03$ ,  $p = .78$ ) or the indirect relationship between Time 1 low hope for the future and Time 2 violence victimization through Time 2 delinquent behavior ( $b = .03$ ,  $p = .41$ ). Gender did not significantly moderate the relationship between Time 1

withdrawal/depressed affect and Time 2 delinquent behavior ( $t [382] = -.61, b = -.08, p = .55$ ) or the indirect relationship between Time 1 withdrawal/depressed affect and Time 2 violence victimization through Time 2 delinquent behavior ( $t [381] = .68, b = .03, p = .50$ ). Gender did not significantly moderate the relationship between Time 1 somatic symptoms and Time 2 delinquent behavior ( $t [382] = .60, b = .05, p = .55$ ) or the indirect relationship between Time 1 somatic symptoms and Time 2 violence victimization through Time 2 delinquent behavior ( $t [381] = .63, b = .02, p = .53$ ). Gender did not significantly moderate the relationship between Time 1 suicide symptoms and Time 2 delinquent behavior ( $t [316] = 1.89, b = .81, p = .06$ ) or the indirect relationship between Time 1 suicide symptoms and Time 2 witnessing violence through Time 2 delinquent behavior ( $t [315] = .02, b = .01, p = .98$ ). Gender did not significantly moderate the relationship between Time 1 low hope for the future and Time 2 delinquent behavior ( $t [1005] = .73, b = .04, p = .46$ ) or the indirect relationship between Time 1 low hope for the future and Time 2 witnessing violence through Time 2 delinquent behavior ( $t [1004] = .84, b = .01, p = .84$ ). Gender did not significantly moderate the relationship between Time 1 withdrawal/depressed affect and Time 2 delinquent behavior ( $t [913] = -.54, b = -.04, p = .59$ ) or the indirect relationship between Time 1 withdrawal/depressed affect and Time 2 witnessing violence through Time 2 delinquent behavior ( $t [912] = -.14, b = -.01, p = .89$ ). Gender did not significantly moderate the relationship between Time 1 somatic symptoms and Time 2 delinquent behavior ( $t [913] = -.53, b = -.03, p = .60$ ) or the indirect relationship between Time 1 somatic symptoms and Time 2 witnessing violence through Time 2 delinquent behavior ( $t [912] = .64, b = .02, p = .52$ ).

### ***Hypothesis 3d.***

Hypothesis 3d similarly determined whether the relationship between Time 1 depressive

symptoms and Time 2 delinquency as well as the relationship between Time 1 depressive symptoms and Time 2 community violence exposure, would be moderated by age such that the relationship would be stronger for older youth compared to younger youth. Significant three-way interactions were probed using the Johnson-Neyman technique in order to identify at what age the effect becomes significant. Age significantly moderated the relationship between suicidal symptoms and delinquent behavior  $t(316) = -1.99$ ,  $b = -.26$ ,  $p = .048$ ). Although the interaction effect was significant, there were no statistical significance transition points within the observed range of the moderator found using the Johnson-Neyman method. Age did not significantly moderate the indirect relationship between suicidal symptoms and witnessing violence through delinquent behavior ( $t[315] = 1.19$ ,  $b = .12$ ,  $p = .23$ ). There was also a significant main effect of suicide symptom severity on delinquent behavior ( $t[316] = 2.02$ ,  $b = 4.09$ ,  $p = .04$ ). Age marginally moderated the relationship between low hope for the future and delinquent behavior ( $t(1005) = 1.82$ ,  $b = .02$ ,  $p = .07$ ). Probing with the Johnson-Neyman technique indicated that low hope significantly predicted delinquent behavior for youth under the age of 12.85 ( $b = -.06$ ,  $p = .05$ , 95%CI  $[-.11, .00]$ ). Age did not significantly moderate the indirect relationship between low hope for the future and witnessing violence through delinquent behavior  $t(1004) = 1.4$ ,  $b = .14$ ,  $p = .18$ . There was also a significant main effect of low hope for the future on delinquent behavior. ( $t[1005] = -2.06$ ,  $b = -.30$ ,  $p = .04$ ). Age did not significantly moderate the relationship between somatic symptoms and delinquent behavior  $t(913) =$ ,  $b = .00$ ,  $p = .68$  or the indirect relationship between somatic symptoms and witnessing violence through delinquent behavior  $t(912) = -1.82$ ,  $b = -.01$ ,  $p = .07$ . Age did not significantly moderate the relationship between withdrawal/depressed affect and delinquent behavior  $t(913) = -.79$ ,  $b = -.01$ ,  $p = .43$  or the indirect relationship between withdrawal/depressed affect and witnessing violence through

delinquent behavior  $t(912) = .31, b = .00, p = .75$ . Age marginally moderated the relationship between suicide symptoms and delinquent behavior  $t(186) = -1.93, b = -.34, p = .055$ . Probing using the Johnson-Neyman technique indicated that suicide symptoms significantly predicted delinquent behavior for youth over the age of 17.44 ( $b = -.87, p = .05, 95\%CI [-1.75, 0.0]$ ). Age did not significantly moderate the indirect relationship between suicide symptoms and violence victimization through delinquent behavior  $t(185) = .75, b = .05, p = .45$ . Age significantly moderated the relationship between low hope for the future and delinquent behavior  $t(421) = 3.19, b = .07, p = .002$ . Probing using the Johnson-Neyman technique indicated that hope for the future significantly predicted delinquent behavior for youth under the age of 13.56 ( $b = -.11, p = .05, 95\%CI [-.22, 0.0]$ ) and over the age of 17.77 ( $b = .17, p = .05, 95\%CI [.00, .33]$ ). Age did not significantly moderate the indirect relationship between low hope for the future and violence victimization through delinquent behavior,  $b = -.00, p = .69$ . Age did not significantly moderate the relationship between withdrawal/depressed affect and delinquent behavior,  $b = -.02, p = .47$  or the indirect relationship between withdrawal/depressed affect and violence victimization through delinquent behavior,  $b = -.01, p = .34$ . Age did not significantly moderate the relationship between somatic symptoms and delinquent behavior,  $b = .01, p = .56$  or the indirect relationship between somatic symptoms and violence victimization through delinquent behavior,  $b = -.01, p = .28$ .



## CHAPTER FIVE

### DISCUSSION

Drawing from public health frameworks and the reciprocal-stress model, the current study seeks to better understand the longitudinal relationship between various components of depressive symptoms in the prediction of exposure to community violence in ethnic minority youth residing in urban communities. To best inform prevention efforts, the current study expands on previous research by examining various mechanisms of this relationship in a community sample that includes younger youth and females.

Aim 1 sought to examine the direct association between depressive symptoms and violence exposure 1 year later, while controlling for previous levels of violence exposure. Hypothesis 1a posited that higher levels of time 1 depressive symptoms (comprised of somatic symptoms, depressive cognitions, depressed affect, and suicidal ideation) would be related to higher levels of Time 2 witnessing violence, while controlling for Time 1 levels of witnessing. Inconsistent with Hypothesis 1a, results revealed that none of the depressive components at Time 1 predicted Time 2 witnessing. Hypothesis 1b predicted that higher levels of time 1 depressive symptoms would be related to higher levels of Time 2 victimization, while controlling for time 1 levels of victimization. Hypothesis 1b was partially supported, as results revealed that lower levels of Time 1 hope for the future predicted an increase in Time 2 violence victimization. Higher levels of suicide symptoms at Time 1 also predicted an increase in violence victimization over time, as did higher levels of depressed affect/withdrawal symptoms at Time 1. In addition,

when all four depressive symptoms were entered in a model together as predictors, results revealed that Time 1 depressed affect/withdrawal was the only predictor of Time 2 violence victimization that remained significant. Of note, Time 1 violence victimization was no longer a significant predictor of Time 2 violence victimization with all variables in the model.

Aim 2 sought to determine whether the relationship between depressive symptoms and violence exposure 1 year later was moderated by engagement in delinquent behavior, and examine gender and age differences in this relationship. Hypothesis 2a predicted that the relationship between Time 1 depressive symptoms and Time 2 witnessing violence would be moderated by Time 1 engagement in delinquent behavior such that for youth who engage in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 witnessing violence will be stronger. As expected, Time 1 somatic symptoms interacted with Time 1 delinquent behavior to predict Time 2 witnessing violence, however, the direction of the moderation was inconsistent with predictions. Specifically, somatic symptoms at Time 1 significantly predicted decreases in witnessing violence at Time 2 at moderate and high levels of Time 1 delinquent behavior, but not at low levels of Time 1 delinquent behavior. Inconsistent with predictions, no other components of Time 1 depression interacted with delinquent behavior to significantly predict Time 2 witnessing community violence.

Similarly, Hypothesis 2b predicted that the relationship between Time 1 depressive symptoms and Time 2 violence victimization would be moderated by Time 1 engagement in delinquent behavior such that for youth who engaged in more Time 1 delinquent behavior, the relationship between Time 1 depressive symptoms and Time 2 violence victimization would be stronger. Hypothesis 2b was partially supported such that low hope for the future at Time 1 significantly predicted increases in violence victimization at Time 2, but this interaction occurred

at low and moderate levels of delinquent behavior at Time 1, and not at high levels of delinquent behavior. Inconsistent with predictions, no other components of Time 1 depression interacted with delinquent behavior to significantly predict Time 2 community violence victimization.

Hypothesis 2c predicted that there would be a three-way interaction between Time 1 depressive symptoms, Time 1 delinquent behavior, and participant sex in the prediction of Time 2 community violence exposure such that the relationship would be stronger for male participants who exhibit high levels of delinquent behavior. Hypothesis 2c was partially supported such that there was a significant interaction between Time 1 low hope for the future, Time 1 delinquent behavior, and sex in the prediction of Time 2 violence victimization.

However, the associations differed by gender such that at low levels of delinquent behavior, low hope for the future predicted higher levels of violence victimization for male participants, but not for female participants. In contrast, at moderate and high levels of delinquent behavior, low hope for the future predicted higher levels of violence victimization for female participants but not for male participants. Inconsistent with predictions, no other components of Time 1 depression interacted with Time 1 delinquent behavior and sex to significantly predict Time 2 community violence witnessing or victimization.

Hypothesis 2d suggested that there would be a three-way interaction between Time 1 depressive symptoms, Time 1 delinquent behavior, and participant age in the prediction of Time 2 community violence exposure such that the relationship would be stronger for older youth who exhibit high levels of delinquent behavior. Consistent with Hypothesis 2d, the interaction between Time 1 low hope for the future and Time 1 delinquent behavior significantly predicted Time 2 violence victimization. No other components of Time 1 depression interacted with Time 1 delinquent behavior and age to significantly predict Time 2 community violence witnessing or

victimization.

Aim 3 sought to determine whether there is an indirect relationship between depressive symptoms and violence exposure 1 year later through engagement in delinquent behavior, and examined gender and age differences in this relationship. Hypothesis 3a predicted that the relationship between Time 1 depressive symptoms and Time 2 witnessing violence would be mediated by higher Time 2 engagement in delinquent behavior. Consistent with predictions, there was a significant indirect effect. However, this indirect effect was in an unexpected direction such that lower levels of Time 1 somatic symptoms predicted higher levels of Time 2 witnessing violence through engagement in Time 2 delinquent behavior. Inconsistent with predictions, no other components of depression indirectly predicted witnessing violence through engagement in delinquent behavior.

Hypothesis 3b predicted that the relationship between Time 1 depressive symptoms and Time 2 violence victimization would be mediated by higher Time 2 engagement in delinquent behavior. Consistent with predictions, there was a significant indirect effect. However, this indirect effect was in an unexpected direction such that lower levels of Time 1 withdrawal/depressed affect predicted increased levels of Time 2 violence victimization through engagement in Time 2 delinquent behavior. No other components of depression indirectly predicted violence victimization through engagement in delinquent behavior.

Hypothesis 3c predicted that participant sex would moderate the relationship between Time 1 depressive symptoms and Time 2 delinquency, as well as the relationship between Time 1 depressive symptoms and Time 2 community violence exposure, such that the relationships would be stronger for males than for females. Hypothesis 3c was not supported as sex did not moderate this relationship for any components of depressive symptoms. Hypothesis 3d predicted

that the relationship between Time 1 depressive symptoms and Time 2 delinquency as well as the relationship between Time 1 depressive symptoms and Time 2 community violence exposure would be moderated by age such that the relationship would be stronger for older youth compared to younger youth. Hypothesis 3d was partially supported. Age marginally moderated the relationship between suicide symptoms and delinquent behavior such that the relationship was significant for older adolescents. Age was also found to significantly moderate the relationship between low hope for the future and delinquent behavior in both the witnessing model and the victimization model such that the relationship was significant for pre-adolescents in the witnessing model, early adolescents in the victimization model and youth in late adolescence in the victimization model. Age did not significantly moderate this relationship for any other components of depressive symptoms.

### **Depressed Affect and Community Violence Exposure**

Interestingly, depressed affect/withdrawal was not related to future witnessing violence in the current study either directly or indirectly. Prior studies have demonstrated a relationship between witnessing violence and depressive symptoms such that youth who are exposed to violence are at increased risk for the development of depressive symptoms (Knox, Funk, Elliot, & Bush, 2000; Vermeiren et al., 2003; Hagan & Foster, 2001). Research has also found that these variables may be uniquely related to each other. For instance, one study found that, compared to youth who experienced direct violence victimization, youth who witnessed community violence were significantly more likely to report depressive symptoms during adolescence (Chen et al., 2017). Despite this, only one known study to date has examined this hypothesized relationship specifically. Burnside (2016) examined this relationship among a sample of justice-involved youth convicted of felonies, and depressed affect specifically also did

not directly or indirectly predict witnessing violence. However given the unique high-risk sample, these findings further exploration in a community sample was warranted. One possible explanation for the lack of significant findings could be due to the measure used to capture depressed affect in the current study. Depressed affect was measured using the Youth Self Report Symptom Inventory Short Form, which consisted of items assessing low mood as well as withdrawal symptoms. Therefore, youth who scored high on this scale may not be engaging in behavioral activation and therefore not frequently getting out and leaving their homes. For this reason, there might be fewer opportunities for them to witness violence in their community. While there are no known studies linking behavioral activation and witnessing violence specifically, one study found that being withdrawn or shy significantly reduced the likelihood that adolescents would engage in delinquent or violent behavior, suggesting that a similar process may be applicable to youth being in situations where they can witness violence in the community (Jolliffe, Farrington, Loeber, & Pardini, 2016).

In contrast, depressed affect/withdrawal was however directly related to being the victim of violence, and notably was the strongest predictor of violence victimization 1 year later when all other components of depressive symptomatology and previous violence victimization were also in the predictive model. This finding lends support to theories that have been posited in the criminology literature related to target attractiveness of violence victims. Specifically, high-crime urban communities often demand outward strength from youth and exhibiting depressed affect may make them appear weaker and more vulnerable, and therefore less likely to deter or defend themselves against victimization, making them more convenient targets (Finkelhor & Asdigian, 1996; Reynolds, O’Koon, Szczygiel & Grant, 2001). This may be particularly true for African American youth who are less likely to endorse affective symptoms such as sadness and

dysphoric mood when compared to Caucasian youth (Politano, Nelson III, Evans, Sorenson & Zeman, 1986). Indeed, African American males in particular may be suppressing (underreporting) depression and sensitivity and instead exhibiting a safer and more adaptive “mask” of hypermasculinity as a reactive coping strategy (Cassidy & Stevenson 2005).

However, when the relationship between depressed affect and victimization was examined in relation to delinquent behavior, higher levels of depressed affect/withdrawal symptoms led to lower levels of delinquent behavior and subsequently lower levels of violence victimization. Youth reporting high levels of depressed affect/withdrawal were less likely to engage in delinquent behavior in the current study, which may help to explain the unexpected direction for the associations between depressed affect and delinquent behavior though violent victimization. Theories of the etiology of delinquent behavior discuss two primary pathways of developing delinquent behavior, one of which is through involvement and affiliation with delinquent peers (Elliott, Ageton, & Canter, 1979). However, youth who are exhibiting low mood and are withdrawn may be likely less socially engaged, which may reduce their opportunities to engage in delinquent behavior through affiliation with deviant peers. In turn, less engagement with delinquent peers may lead to fewer opportunities to be victimized in the community. Taken together, the findings of the current study suggest that the expression of depressed affect among urban youth may be more complicated than previously thought and may serve as both a vulnerability and protective factor. While more depressed affect appears to place youth at increased risk for direct violence victimization, this relationship does not appear to be operating through engagement in delinquent behavior and there may be other mechanisms that are contributing to this relationship. Further research is needed to further explore this nuanced relationship.

## **Somatic Symptoms and Community Violence Exposure**

Somatic symptoms in the current study were not found to have a direct effect on either witnessing or being the victim of community violence. Somatic symptoms did significantly indirectly predict future witnessing violence, but this relationship was in an unexpected direction such that higher levels of somatic symptoms led to lower levels of witnessing violence through lower levels of delinquent behavior.

Research among low-income, urban youth specifically has found that somatic complaints were the most commonly reported type of internalizing problems across both boys and girls and these youth are more likely to score in the clinical range on somatic complaints than the general population (Grant et al., 2004; Reynolds et al., 2001). One study examining a community sample of African American adolescents found elevated rates compared to other community samples such that 83% of youth endorsed at least one somatic symptom as having occurred sometimes or often during the past 2 weeks, with the average being 2.5 somatic symptoms endorsed (Kingery, Ginsburg, & Alfano, 2007). Post-hoc descriptive analyses in the current study are consistent with these studies such that youth reported higher levels of somatic symptoms than depressed affect withdrawal symptoms. It has been suggested that this is due to the fact that somatic complaints are a more culturally-sanctioned expression of psychological distress among cultures where stigma surrounding mental illness is high (Bagayogo, Interian, & Escobar, 2013). It is also possible that somatization could be a defensive strategy, as more affective expressions of internalizing symptoms (e.g. crying) may be interpreted as a sign of weakness in certain communities (e.g. Attar et al., 1994).

An additional explanation for the finding that somatic symptoms are more commonly reported by ethnic minority youth could be also due to systemic health disparities. Specifically,



research has overwhelmingly demonstrated that youth are disproportionately impacted by existing racial/ethnic health disparities and significantly more likely to experience a multitude of major chronic diseases (Price, Khubchandani, McKinney & Braun, 2013). This disparity is due to a multitude of factors, but a significant contributing component is thought to be unequal access to health services due to factors such as insurance, and appointment availability (Price, Khubchandani, McKinney & Braun, 2013). The way in which the Youth Self-Report assesses for somatic symptoms in the current study may be partially capturing these disparities, as it asks youth to report on how often they experience a variety of physical symptoms (e.g., aches/pains, headaches, nausea, stomach aches, etc.) “without a known medical cause” (Achenbach, 1991). It is possible that these youth are experience symptoms of a health condition that remains medically unexplained due to disparities in treatment access, and the symptoms are not fully representative of an underlying mental health disorder. This could possibly explain why somatic symptoms in the current sample were not found to have a direct impact on violence exposure.

Given that the current study found that somatic symptoms actually result in less engagement in delinquent behavior and subsequently less witnessing of violence, the expression of somatic symptoms could be adaptive in some communities that are high in violence. For instance, youth may be subconsciously using somatic symptoms as a culturally-sanctioned and acceptable way to avoid stressful or unsafe situations, a component of secondary gain that is often discussed in the context of somatic symptoms and trauma (Greene & Walker, 1997; Reynolds, O’Koon, Papademetriou, Szczygiel, & Grant, 2001; Silber, 2011). Specifically, youth may report somatic symptoms as a way to engage less frequently with their environment and avoid potentially unsafe school or community events as a protective mechanism, which ultimately results in less exposure to violence. Somatic symptoms may also serve as a warning

sign of distress for these youth and may make them more likely to elicit help and support from those in their environment and therefore more likely to access and receive treatment and services (Reynolds, O’Koon, Szczygiel, & Grant, 2001; Hart et al., 2013). Further, youth engaged in mental health services may be less likely to engage in risky or delinquent behavior (e.g., Weisz, Sandler, Durlak & Anton, 2005; Huey & Polo, 2008) which could subsequently reduce their risk for violence exposure.

Delinquent behavior also significantly moderated the relationship between somatic symptoms and community violence exposure in the current study such that somatic symptoms at Time 1 significantly predicted decreases in witnessing violence at Time 2 at both moderate and high levels of Time 1 delinquent behavior, but not at low levels of Time 1 delinquent behavior. This suggests that the relationship between somatic symptoms and witnessing violence changes depending on the level of delinquent behavior engaged in by the youth. This suggests that youth who are engaging in higher levels of delinquent behaviors and are additionally experiencing depressive symptoms may be more likely to endorse somatic symptoms which subsequently reduces their exposure to violence. This could be due to the fact that, as a result of engagement in delinquent behavior, these youth are more aware of situations that may potentially escalate to violence or be unsafe and therefore more likely to find adaptive ways to avoid them. These moderation results suggest that there may be unique subgroups of youth who are experiencing this construct in different ways. Further research is needed on the directionality and mechanisms of the relationship between somatic symptoms and future violence exposure. Future analyses should include person-centered analyses in order to provide enhanced clarity about various subgroups of youth.

## **Depressogenic Cognitions and Community Violence Exposure**

Depresogenic cognitions, as operationalized by low hope for the future in the current study had no direct effect on witnessing community violence, but did directly predict violence victimization one year later. While hopelessness has been correlated with community violence in a multitude of community-based samples of youth (e.g. So, Gaylord-Harden, Voisin, & Scott, 2015; Ceballo, Ramirez, Hearn, & Maltese, 2003; DuRant et al., 1994; Bolland et al., 2001; Bolland et al., 2003), this research has been largely cross-sectional. This finding is also consistent with longitudinal research with juvenile justice youth which found that low hope for the future had a direct effect on community violence victimization, but not the witnessing of community violence exposure (Burnside & Gaylord-Harden, 2018).

Results of the current study revealed that delinquent behavior significantly moderated this relationship such that low hope for the future predicted higher violence victimization at low and moderate levels of delinquent behavior, but not at high levels of delinquent behavior. Although it was expected that this moderating effect would occur at high levels of delinquent behaviors, low and moderate levels of delinquency in this population may provide enough risk to increase the likelihood of victimization. Specifically, within this community sample moderate and even low levels of engagement in delinquent behavior may be enough to increase risk of violence exposure for these youth. In the current study mediation analysis, “low” delinquency was defined as reporting an average of one delinquent act and moderate was reporting an average of three occurring within the past year. It is possible that these 1-3 offenses could still be significant enough to place youth at risk. It is also possible that some youth may be slightly underreporting some of their delinquent behavior. Although self-report measures of delinquency and crime have demonstrated acceptable reliability and validity for use in research (Thornberry

& Krohn, 2000), specific examination of criterion validity of these measures suggests that there is often a significant amount of either concealing or difficulty recalling past criminal behavior and considerable underreporting is common (Thornberry & Krohn, 2000). Further, some studies have demonstrated that, when examining objective record information in concordance with self-reports of delinquent and criminal behavior, African American youth specifically self-report fewer offenses than are present in their criminal histories (Hindelang, Hirschi, & Weis, 1981; Huizinga & Elliott, 1986). Given that this is a sample comprised entirely of youth of color, this phenomenon could be occurring in this population as well and could serve to explain why even low and moderate levels of delinquency that youth endorsed could be representative of even more unreported delinquency.

Consistent with predictions, delinquency presents as a significant vulnerability factor for violence victimization. Youth who reported high levels of delinquency also endorsed high levels of violence victimization regardless of level of hope for the future, whereas high hope for the future appears to be protective for youth in the low and moderate delinquency groups. This is consistent with the ecological-transactional model such that youth who are engaging in more dangerous and risk-taking behavior will subsequently be exposed to more community violence as they interact with their environment (Lynch & Cicchetti, 1998; Lynch, 2003). Indeed prior research on a study of youth 11-17 found that engagement in delinquent behaviors such as theft, vandalism or assault made youth 2-3 times more likely to be the victim of a future violent assault (Lauritsen, & Laub, & Sampson, 1992). The current findings extend previous research and suggest the significance of delinquency as a vulnerability factor for violence victimization regardless of cognitive, individual-level factors.

The current study also found a significant moderated moderation effect for sex such that

at low levels of delinquent behavior, low hope for the future predicted high levels of violence victimization for male participants but not for female participants. However, at moderate and high levels of delinquent behavior, low hope for the future predicted higher levels of violence victimization for female participants but not for male participants. Alternatively stated, high hope for the future appears to be highly protective from violent victimization for female participants in the current sample compared to male participants, and notably, even among female participants who are engaging in moderate and high levels of delinquency. This is an important area of intervention for females, but also a notable gender difference. This is consistent with a recent study of African American adults which revealed that high educational attainment was a protective factor for African American women against depressive symptoms and psychological distress but not for males (Assari, 2018). The authors attributed this gender difference to ongoing experiences of racial discrimination such that as African American males experience gains in their educational attainment and subsequently socioeconomic status, they are then more likely to experience increased discrimination (Assari, 2018). African American males are more likely to experience racial discrimination at a multitude of systemic levels including education, employment, and the justice system and they are additionally less likely to experience benefits from upward social mobility compared to European American men with comparable educational attainment (Assari, 2018). It is possible that this phenomenon could be playing a role for children and adolescents as well such that early hope for a positive future could be different for males versus females. The ethnic minority males in the current study may have already encountered similar experiences that have reduced the possible positive futures they can see for themselves and as a result maintaining hope for a positive future does not serve as a protective factor for these youth. Additionally, hope for the future appears protective only for males who

are engaged in low levels of delinquent behavior. This could be due to the fact that males who engage in moderate or high levels of delinquent behavior have possibly already interfaced with the juvenile justice system, which makes their prospect and hope for a positive future more limited. Qualitative research among incarcerated adolescents has suggested that, although many youth recognize the importance of striving for a positive and successful future, many youth have difficulty seeing past their current situation and identifying concrete strategies or steps that would actually help them achieve or attain their desired future (Clinkinbeard & Zohra 2012). This may also be true for youth who are in the community but have interfaced with the justice system due to high engagement in delinquent behavior.

Age also significantly moderated the moderated relationship in the current study such that the interaction between low hope for the future and delinquent behavior in the prediction of future violence victimization was significant for older adolescents. Specifically, even for older youth who reported high hope for their future, engagement in a high level of delinquent behavior still put them at increased risk for violence victimization. One possible explanation for this finding is due to the measure utilized to capture delinquent behavior. The current study utilized a count of the number of delinquent behaviors youth self-reported that they engaged in, but did not take into account the severity of the delinquent behavior. For instance, items on the delinquency scale include items such as “stole something from a store” or “caused trouble in a public place so that people complained such as being loud and disorderly” to “used a weapon or force to get money or things from people” and “shot at someone.” It is possible that older youth could be engaging in the types of delinquent behaviors that could put them in more dangerous situations, therefore increasing their victimization risk compared to younger youth endorsing delinquency. Post-hoc descriptive analyses were conducted in the current sample using bivariate correlations

that supported this such that younger youth were significantly more likely to have stolen from an employer or stolen from a household member than older youth, whereas older youth were more likely to report selling marijuana, using force to rob someone, or carrying a hidden weapon.

Consistent with this, research has continued to reflect an age-crime curve such that the likelihood of being charged with a crime increases rapidly from early to middle adolescence (e.g., Loeber et al., 2012). This suggests that the frequency and/or intensity of delinquent behavior increases with age which could put older youth at increased risk. A similar trend exists with violence exposure such that studies continue to demonstrate that older youth are at increased risk of experiencing more community violence exposure than younger youth (e.g., Finkelhor et al., 2009).

Age was also found to be significant in the moderated mediation model such that age moderated the relationship between low hope for the future and delinquent behavior in both the witnessing and victimization model such that the relationship was significant for pre-adolescent youth in the witnessing model, early adolescents in the victimization model, and late adolescents in the victimization model. Of note, age was only found to moderate the relationship between low hope for the future and delinquency but not low hope for the future and violence exposure. Taken together with results from the aforementioned moderated moderation model, it appears that age is a significant contributor to the way in which low hope for the future relates to delinquency. Youth who struggle to see a positive future for themselves may not be concerned with the consequences of their behavior and therefore may be more likely to engage in delinquent and reckless behavior (Stoddard et al., 2012). This finding is consistent with prior research such as one study examining African American youth ages 9-19 that found that feelings of hopelessness for the future were associated with engagement in multiple risk behaviors (Bolland, 2003). Further research should consider ways in which depressive symptoms relate to

engagement in delinquent and risky behavior in younger children especially. Developing and enhancing hope for the future in pre-adolescent youth may serve as an important point of intervention to prevent engagement in delinquent behavior and the potential for future violent victimization.

### **Suicidal Thoughts and Behaviors and Community Violence Exposure**

Suicidal thoughts and behaviors in the current study had no direct effect on witnessing community violence, but were found to significantly predict future violent victimization above and beyond the effect of previous violent victimization. It is possible that youth who are endorsing suicidal ideation are already experiencing such intense levels of symptomatology that they are unable to mask or adapt their symptoms to a more socially-acceptable format. For this reason, these youth may be demonstrating more blatant and external depressed affect, which as aforementioned could place them at higher risk for being the target of violent victimization (e.g., Finkelhor & Asdigian, 1996).

Notably, the proposed mechanism of this relationship being either moderated or mediated by engagement in delinquent behavior was not supported in the current study. This suggests that another possible mechanism may be playing a role in this relationship for youth of color, yet research on contextual factors related to suicide in minority youth remains highly understudied and less understood when compared to White youth (Bennett Jr. & Joe, 2015). One study found that, among African American and Latino urban youth there was no direct relationship between community violence exposure and suicidality, but these variables were indirectly related through increases in depressive symptoms and substance abuse, which could be an important point of future research in this area (Bennett Jr., & Joe, 2015). One theory posited by Jones-Eversley and colleagues (2020) points to the historical misdiagnosis of mental health symptoms in African



American males in particular, such that symptoms of depression and anxiety are more likely to be misdiagnosed or diagnosed as psychosis, preventing early, accurate, and appropriate identification and treatment of these diagnoses. For this reason, once these symptoms intensify and develop into suicidal ideation, youth may already be at increased risk for violence victimization due to a myriad of other factors including substance use and non-suicidal self-injury (Jones-Eversley, Rice II, Adedoyin, & James-Townes, 2020).

The lack of significant moderation or mediation effects could also be attributed to the measures utilized in the current study, as the study is limited by the availability of a pre-existing dataset. Delinquent behavior in the current study was operationalized by the Self-Report of Offending Measure that was developed to assess involvement in antisocial and illegal activities (Huizinga, Esbensen, & Weiher, 1991). For this reason, this measure may not be accurately capturing all types of risky behavior that youth could be engaging in that could put them at increased risk for community violence exposure. Indeed, qualitative accounts of suicidal behavior in gang-involved youth have described youth intentionally walking down a different block as a manifestation of risky behavior such that they knowingly walk into enemy gang territory as a way of endangering their life (Boyle, 2011). Although gang-involvement was not assessed in the current study, for youth residing in neighborhoods plagued by high rates of community violence, engagement in “risky” or otherwise life-threatening behavior may not be something that is necessarily illegal or captured by the measure utilized in the current study.

Age also marginally moderated the relationship between suicide symptoms and delinquent behavior in the current study such that the relationship was significant for older adolescents. This is consistent with literature that suggests that suicidal thoughts and behaviors tend to increase during the adolescent years (e.g., Bridge, Goldstein, & Brent, 2006).

Additionally, older minority youth who are experiencing suicidal thoughts may be more likely to engage in reckless and risky behavior that puts their life in danger in place of more typical suicidal behaviors (e.g., Knox, Conwell, & Caine, 2004), as these “more socially acceptable form[s] of suicide” may be prevalent among violence-exposed youth in urban environments but less understood (Wasserman & Stack, 2011).

### **Limitations and Strengths**

These results should be considered in light of study limitations. First, findings were based on a sample of urban-residing, racial and ethnic minority youth and may not be generalizable to other populations of youth. Additionally, all measures in the current study were self-report measures. Although research has demonstrated that youth’s self-report of violence exposure (e.g. Cooley-Strickland et al., 2009) and internalizing symptoms (e.g. Abela & Hankin, 2011) have demonstrated adequate reliability, there is still a possibility of shared method variance, which could generate inflated associations between study variables. Future studies should incorporate other methods of data collection, such as objective crime data as a representation of community violence or parent-report or teacher-report measures of functioning in order to ensure a broader perspective on the variables.

Due to the current study utilizing a pre-existing dataset, these results are also limited by some challenges with the dataset. First, the way in which the items were coded and entered into the dataset present challenges with missing data. For example, on the measure of community violence victimization, if a participant did not endorse experiencing a specific violent event, the following items were coded as missing. Specifically, if a youth reported that they did not ever experience an event, the next item that asked more specifically about the timeline (i.e., did this happen within the last 12 months) was then not asked and subsequently coded as missing. This

serves as a limitation as many youth were not included in the current study who otherwise had complete data due to having seemingly “missing” data in the community violence exposure measure. Despite this, the current study chose to utilize list-wise deletion to manage the missing data which is consistent with previous publications using PHDCN data (e.g., Antunes & Ahlin, 2018; Maimon & Browning, 2012). Maimon & Browning (2012) conducted multiple analyses to compare youth lost to attrition or item missingness with youth with complete data and compared the results of their models using list-wise deletion to multiple imputation strategies, but based on these results still elected to utilize list-wise deletion. For this reason and consistent with a multitude of previous work using PHDCN data, the current study still presents an important contribution to the literature. In addition to this, the measures of community violence exposure in the current study remained slightly skewed even after the data were transformed which presents a limitation and should be considered when interpreting the results of this study.

An additional limitation of the dataset used in the current study is due to the measures obtained in Wave 1 during the initial data collection. The majority of variables in the current study were not collected during Wave 1 of data collection, so the current analyses utilized Waves 2 and 3 in order to conduct longitudinal analyses using all proposed variables. As a result, both the mediator and the dependent variable are at the same timepoint for the current analyses. While conducting a mediation across 3 timepoints would allow for a more robust examination of the indirect relationships, 3 separate timepoints are not a requirement for mediation analyses using Hayes PROCESS macro and the priority is that X precedes M and Y in time, which is a standard that is met in the current study (Hayes, 2018). Despite this, it is important to note that the mediation results in the current study could be more reflective of a moderation effect given the timepoint limitations.

Another limitation that impacts the generalizability of the current study is that the data utilized were collected between the years 1997-2002. It is important to note that during this time the majority of Chicago's public housing consisted of high-rise buildings. Detailed accounts of the impact of these high-rise buildings reveal uniquely high levels of concentrated poverty and violence (Dubrow & Garbarino, 1989; Sweat, Harding, Knight-Lynn, Rasheed & Carter, 2002). Contagion effects of depression, crime, and violence exposure due to the close proximity of individuals residing in these high-rises should be considered when interpreting the results of the current study. When these high-rise buildings were ultimately dissolved and torn-down, residents were dispersed throughout the city (Rasinski & Haggerty, 2010). While research has demonstrated that dissolving high-rise public housing buildings did reduce concentrated crime and violence in those specific areas of Chicago (Popkin, Rich, Hendey, Hayes, & Parilla, 2012), the picture of current trends is more complex. Indeed, while it is well established that rates of violent crime in the United States peaked in the earlier 1990s and have steadily declined since then, (Zimring, 2006), recent research has suggested that the declines have not been evenly distributed. For instance, a study by Papachristos and colleagues (2018) examined neighborhoods in Chicago specifically and found that there is a significant crime gap that disproportionately impacts disadvantaged neighborhoods and has continued to grow. Specifically, the neighborhoods that were both the highest and lowest crime neighborhoods during the peak of the crime epidemic remain that way in Chicago (Papachristos et al., 2018). This suggests that the levels of community violence exposure experienced by ethnic minority youth when PHDCN data were collected may still provide helpful information that is applicable to youth currently living in historically marginalized neighborhoods in Chicago.

Finally, the current study was unable to examine the role that anxiety symptoms may play

in the relationship between depressive symptoms and violence exposure due to data limitations. Specifically, the Youth Self-Report, Short Form that was utilized in the current study limits the possible subscales that can be derived to assess different domains of mental health functioning. The subscales available in the current study include somatic symptoms and withdrawal/depressed affect, which are utilized as independent variables in the analyses. An additional present subscale is the anxious/depressed syndrome score, but there is no subscale that assesses pure anxiety. For this reason, anxiety was unable to be accounted for in the current analyses. Some research has suggested that youth with high levels of anxiety symptoms and subsequent associated hypervigilance could be more likely to respond to ambiguous situations with impulsive and/or aggressive behavior because they are interpreted as threatening or dangerous (Granic, 2014), and this could be especially relevant in the context of community violence exposure. For this reason, future research should examine the role of anxiety symptoms in this relationship. In addition to this, the current analyses did not examine other types of violence exposure that youth could be exposed to (e.g., domestic violence) and future research should better disentangle the effects of other forms of chronic trauma in the relationship between depressive symptoms and community violence exposure. Little is known about the ways in which depressive symptoms are related chronic, repeated exposure over time and future studies should continue to explore this relationship longitudinally.

### ***Strengths***

The current study expands upon the literature by utilizing a longitudinal, community sample allowing for a more intricate examination of psychological symptoms and the transactional relationship between the variables. The current study also integrates an examination of younger youth as well as female youth, to expand the examination of community violence

exposure beyond the typical population of adolescent males. This study also expands upon previous research by unpacking the broad construct of depression into the individual components of affect, somatic symptoms, and depressogenic cognitions in order to better understand this relationship. In addition, the current study focuses on African American and Latino youth only. A chapter reviewing theoretical and empirical advances in research on adolescent development states that a shift away from documenting group differences to within-group analyses that account for the heterogeneity among adolescents from particular racial and ethnic groups is the recommended continued trend within the field (Smetana, Campione-Barr, & Metzger, 2006). The current study is consistent with these recent and important trends in adolescent research and makes an important contribution to the literature.

### **Clinical Implications**

The current study highlights the importance of interventions that target the early development of a multitude of depressive symptoms in youth as a critical component of the prevention of both delinquent behavior and violence exposure. Given that both depressed affect and suicidal ideation were a significant risk factor in the prediction of future violence victimization, there is a need for early and targeted intervention to address depressive symptoms in ethnic minority, urban youth. One study of a nationally representative sample of adolescents found that non-Latino black youth with internalizing disorders were less likely to be identified and encouraged to seek mental health services by a teacher and they were also less likely to engage in services when compared to non-Latino white peers (Alegría et al., 2012). The results of the current study highlight an urgent need to close this identification and treatment access gap in order to reduce the incidence of violence victimization among these youth. Widespread targeted psychoeducation for educators, pediatricians, and parents about the different ways in

which depression may manifest in youth at varying developmental periods is critical in order to lead to the early identification of these children. Additionally, broader interventions that aim to increase awareness about mental health and reduce stigma towards depression in urban communities of ethnic minority youth may be a critical public health intervention to help reduce the incidence of violence victimization.

The current study also provides important information about somatic symptoms among ethnic minority youth. Specifically, higher levels of somatic symptoms were found to lead to lower levels of engagement in delinquent behavior and subsequently lower levels of witnessing violence. Somatic symptoms that are medically unexplained constitute nearly a third of visits to outpatient medical centers (Kroenke, 2003) and while they have been previously linked to experiences of trauma (Roelofs & Spinhoven, 2007), less is known about ways in which this type of psychological symptom manifestation may actually serve as protective for some youth. A consideration and understanding of how these symptoms may operate in the context of the environment for youth at risk for violence exposure should be carefully considered by integrated pediatric psychologists. Somatic symptoms could serve as an important screener for other depressive symptoms in youth. Of note, some research has found that there is often disagreement between parent and child report of somatic symptoms such that parents are generally not aware of the extent of physical symptoms being experienced by their child (Hart, Hodgkinson, Belcher, Hyman & Cooley-Strickland, 2013). This highlights the importance of asking youth specifically who present with somatic complaints about their experiences and potential underlying mental health symptoms. Further, the current study found that somatic symptoms could potentially be protective against future violence exposure. This continues to highlight the importance of contextualizing symptoms within the environment that youth reside, and tailoring interventions

to these unique experiences. Cognitive-behavioral interventions should work to highlight the multi-factorial consequences of depressive symptoms in youth.

The current study also demonstrates the importance of the cognitive component of depression, or hope for the future as a target for intervention, especially for girls. Focusing on the concept of multifinality may highlight for youth that developmental trajectories are often discontinuous and malleable, and may help facilitate more hope for the future (Park-Taylor & Vargas, 2012). One intervention, the Penn Resiliency Program (Cardemil et al., 2002), which was tailored for low-income minority children has demonstrated significant promise for reducing hopeless thoughts up to 1 year later in Latino youth. The intervention helps youth process negative life events through incorporating components of cognitive behavioral therapy and meaning making using strategies such as generating lists of possible explanations for such events and determining the most plausible explanation (Cardemil, Reivich, Beevers, Seligman, & James, 2007). Strengths-based interventions that focus on resiliency and build from a Positive Youth Development perspective should also be especially emphasized for minority youth. One such intervention, Girls with a Purpose (GWAP), targets African American girls ages 12-17 specifically and builds on a multitude of strengths that could target depressed/affect withdrawal and hope for the future specifically. The intervention focuses on a variety of components including community involvement, academic success, self-esteem, and empowerment (Harper, James, & Ramey, 2019). Further, it is imperative that interventions are culturally-tailored and have demonstrated efficacy and effectiveness on the populations in which they are being used. One study culturally adapted a school-based suicide prevention intervention on African American youth in grades 9-11 through the use of student consultants who commented on the relevance and needed adaptations to a pre-existing cognitive-behavioral stress prevention



intervention, and youth who received the intervention demonstrated 86% reduction in suicide risk compared to control youth (Robinson et al., 2016). Future research should continue to inform such interventions for ethnic minority youth in underserved communities, as these may be critical in reducing levels of community violence exposure in youth.

Table 1. Bivariate correlations of the study variables and descriptive statistics

	1	2	3	4	5	6	7	8	9	10
1. Time 1 Witnessing	-									
2. Time 1 Victimization	.40**									
3. Time 1 Hope for the Future	-.08**	-.09*								
4. Time 1 Suicide Symptoms	.27**	.21**	-.05							
5. Time 1 Somatic Symptoms	-.16**	.12**	-.17**	.25**						
6. Time 1 Depressed Affect	.03	.10**	-.16**	.23**	.45**					
7. Time 1 Delinquency	.49**	.36**	-.13**	.26**	.12**	.08**				
8. Time 2 Delinquency	.32**	.24**	-.05	.06	.01	-.02	.48**			
9. Time 2 Witnessing	.42**	.16**	-.04	.14**	.05	.03	.33**	.48**		
10. Time 2 Victimization	.16**	.19**	-.11**	.06	.07	.13**	.22**	.44**	.44**	
Mean	2.62	0.90	16.75	0.62	3.66	2.89	2.85	1.68	2.66	0.77
SD	2.05	1.05	2.69	0.74	3.18	2.16	2.64	2.34	1.96	1.01

Note. \* $p < .05$ ; \*\* $p < .01$

Figure 1. Time 1 delinquent behavior as a moderator between Time 1 somatic symptoms and Time 2 witnessing community violence (while controlling for Time 1 witnessing violence)

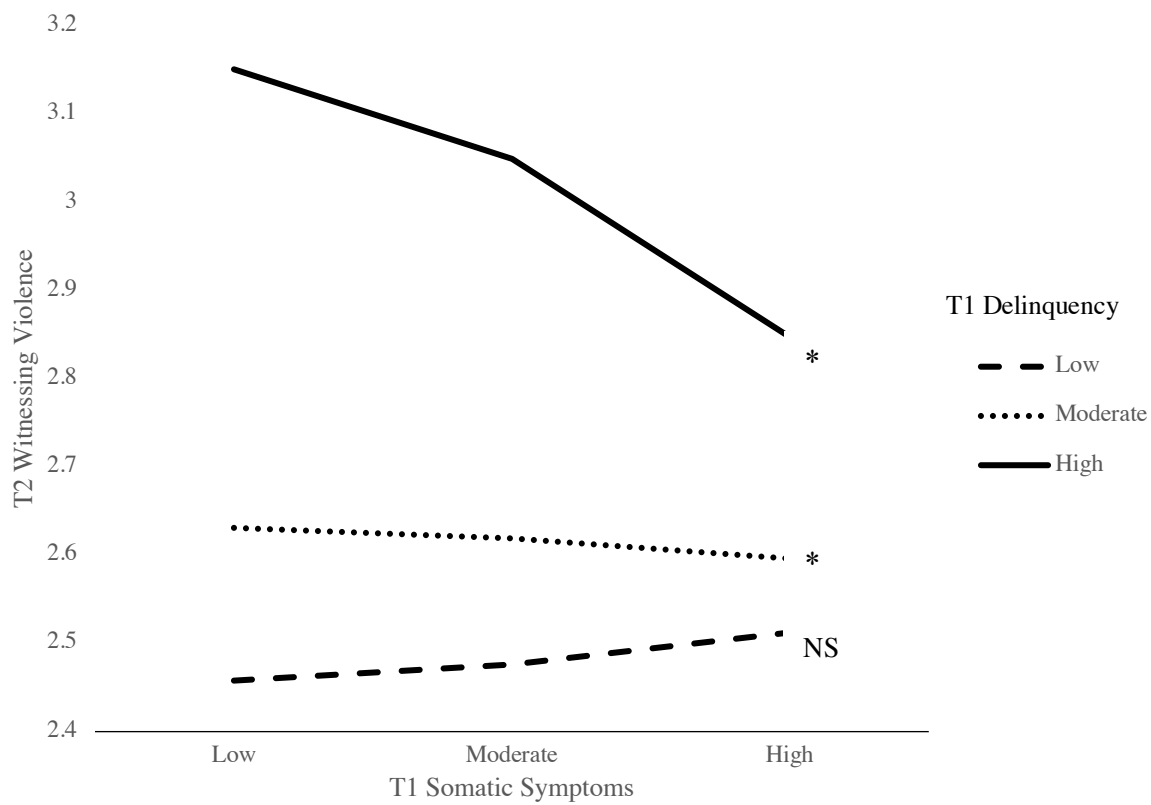


Figure 2. Time 1 delinquent behavior as a moderator between Time 1 hope for the future and Time 2 community violence victimization (while controlling for Time 1 violence victimization)

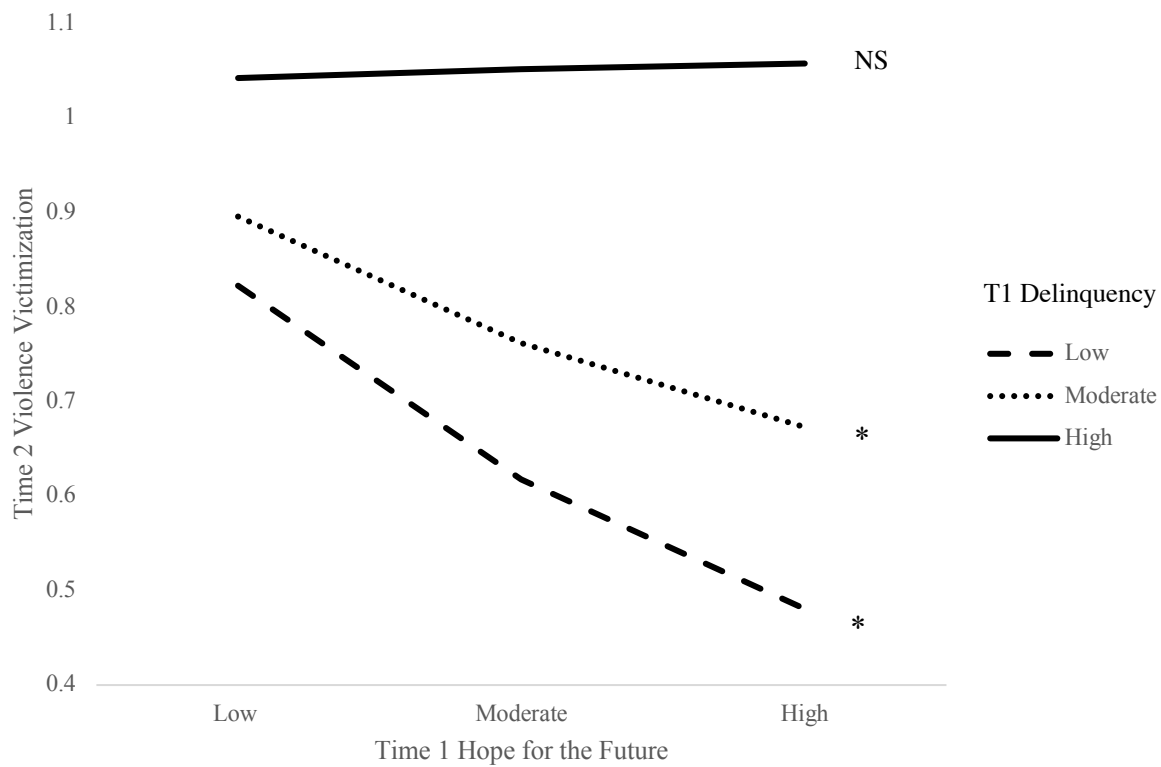


Figure 3. Moderated Moderation between Time 1 low hope for the future, Time 1 delinquent behavior, and sex in the prediction of Time 2 violence victimization

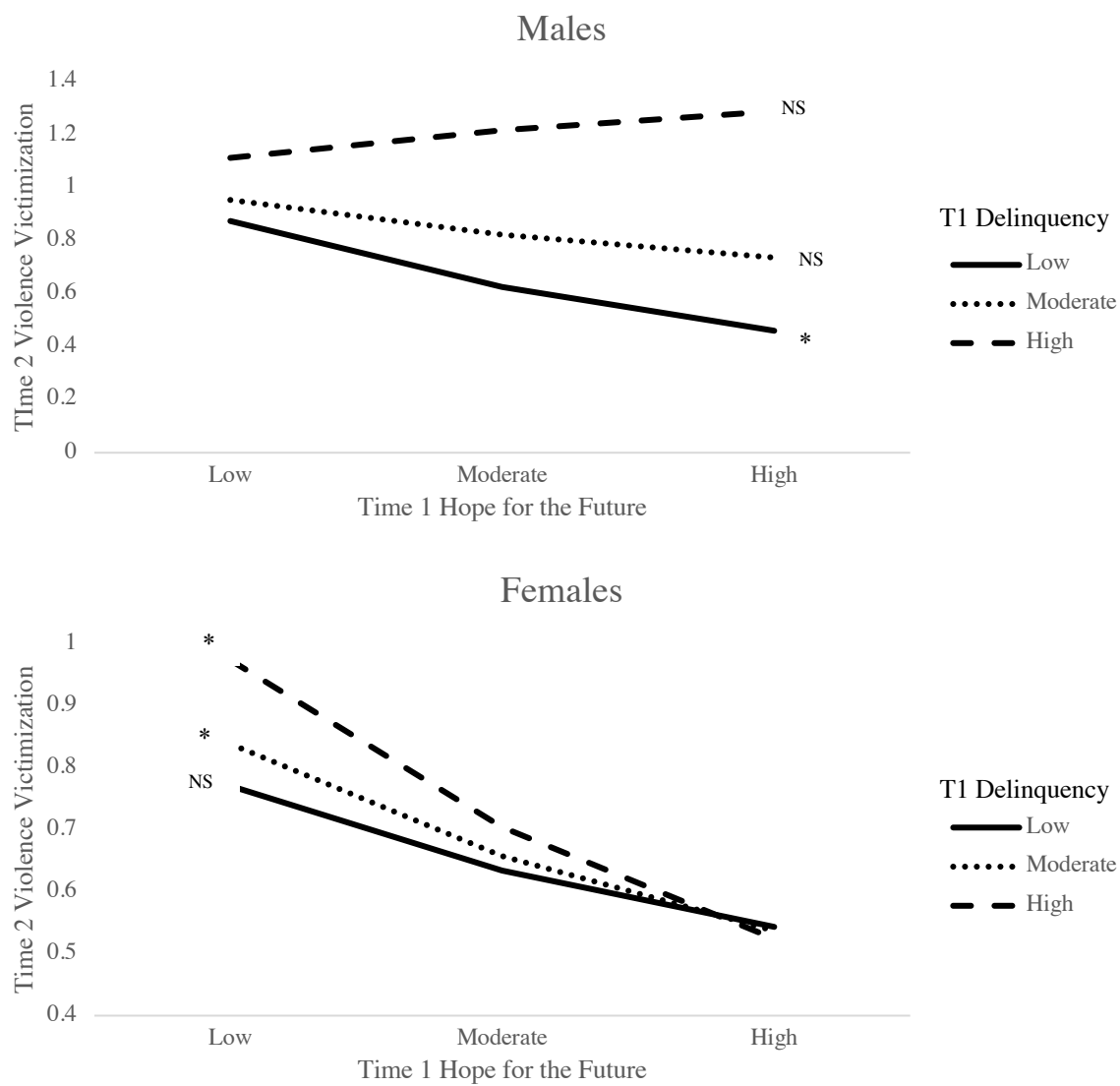


Figure 4. Moderated Moderation between Time 1 low hope for the future, Time 1 delinquent behavior, and age in the prediction of Time 2 violence victimization

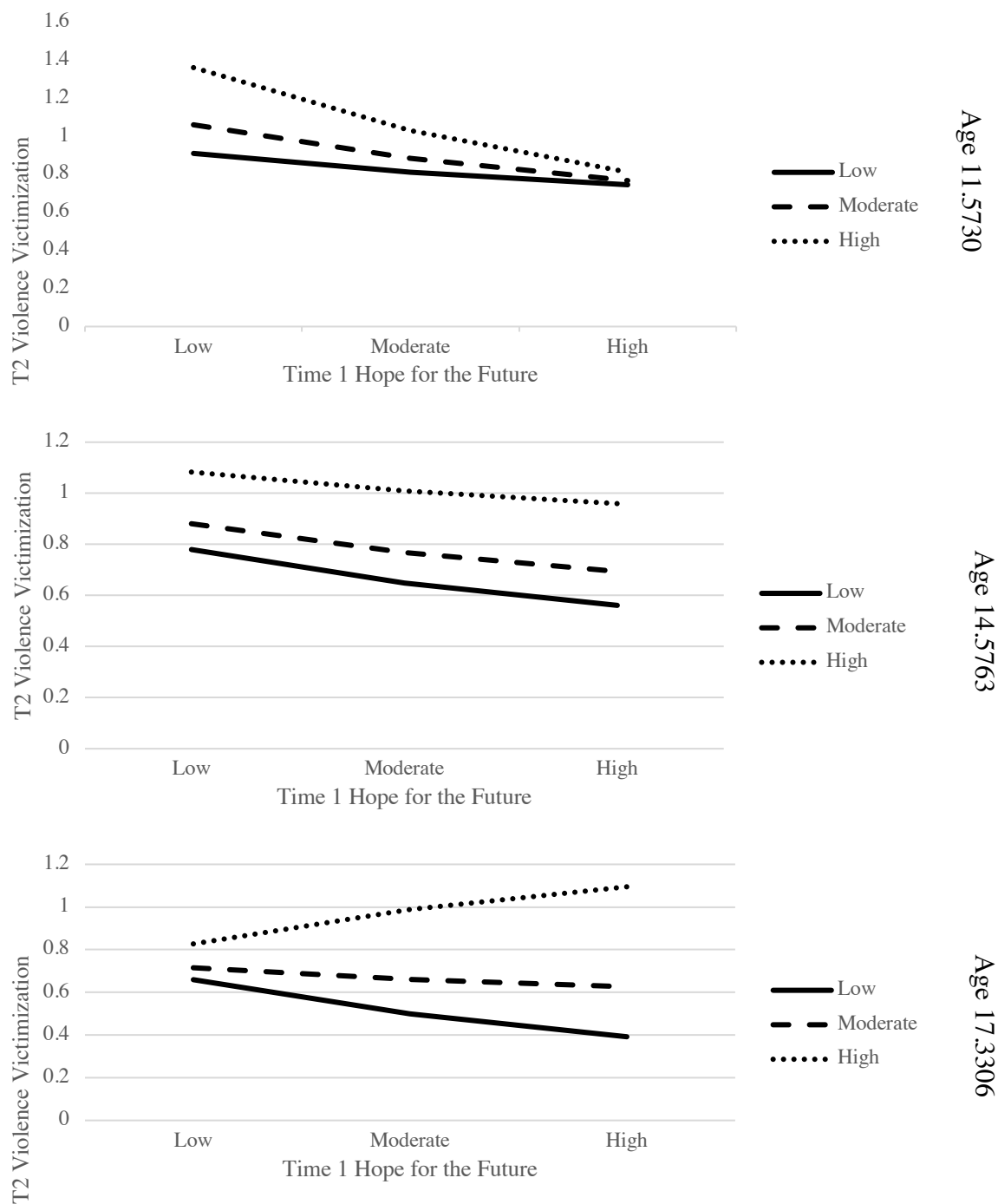


Figure 5. The indirect relationship between Time 1 somatic symptoms and Time 2 witnessing violence through Time 2 delinquent behavior

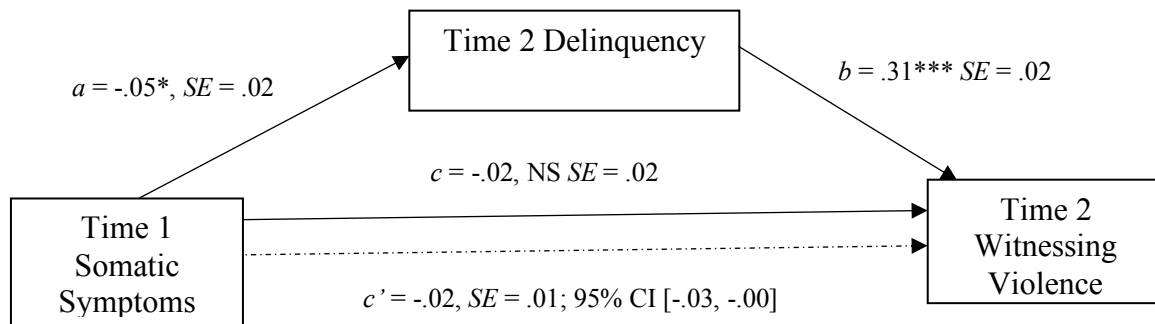
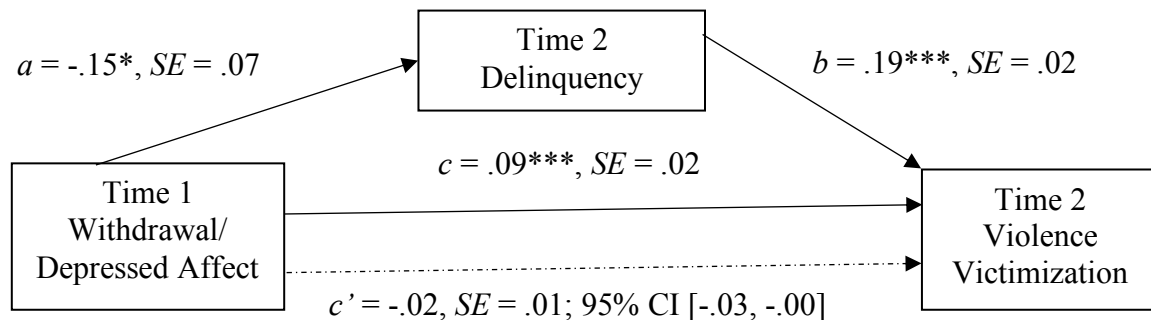


Figure 6. The indirect relationship between Time 1 withdrawal/depressed affect and Time 2 violence victimization through Time 2 delinquent behavior





APPENDIX A  
LIST OF MEASURES

### My Exposure to Violence Questionnaire

The next set of questions are about different violent things that may have happened to you or that you may have seen. This might be difficult for you to think about. We may also ask you about how many times things have happened to you. Sometimes this is hard to do. We appreciate your answering the questions as best as you can. I want to remind you that I am not allowed to discuss your answers with anyone else. When I ask about different things that you may have seen, DO NOT include in your answers things that you may have seen or heard about e on TV, radio, the news, or in the movies.

1. In your whole life, have you ever seen someone else get chased when you thought they could really get hurt? (Yes/No)
  - a. Now just thinking about the last 12 months, have you seen someone get chased?
  - b. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
2. In your whole life have you ever been chased when you thought that you could really get hurt? (Yes/No)
  - a. Now just thinking about the last 12 months, have you been chased?
  - b. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
3. In your whole life, have you ever seen someone else get hit, slapped, punched, or beaten up? This does not include when they were playing or fooling around. (Yes/No)
  - a. Now just thinking about the last 12 months, have you seen someone else get hit, slapped, punched, or beaten up?
  - b. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
4. In your whole life, have you ever been hit, slapped, punched, or beaten up? This does not include when you were playing or fooling around. (Yes/No)
  - a. Now just thinking about the last 12 months, have you been hit, slapped, punched, or beaten up?
  - b. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
5. In your whole life, have you ever seen someone else get attacked with a weapon, like a knife or bat? This does not include getting shot or shot at. (Yes/No)
  - a. Now just thinking about the last 12 months, have you seen someone get attacked with a weapon?
  - b. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
6. In your whole life, have you ever been attacked with a weapon, like a knife or bat? Again, this does not include getting shot or shot at. (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you been attacked with a weapon?

- c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 7. In your whole life, have you ever seen someone else get shot? This doesn't include seeing someone shot with a BB gun or any type of toy gun, like a paint ball gun or air rifle. (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you seen someone get shot?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 8. In your whole life, have you ever been shot? Again, this doesn't include being shot with a BB gun or any type of toy gun. (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you been shot?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 9. In your whole life, have you ever seen someone else get shot at, but not actually wounded? (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you seen someone get shot at?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 10. In your whole life, have you ever been shot at, but not actually wounded? (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you been shot at?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 11. Other than what you have already told me, in your whole life, have you ever heard gunfire nearby? This does not include hearing gunfire while hunting or at a shooting range. (Yes/No)
  - a. Now just thinking about the last 12 months, have you heard gunfire nearby?
  - b. About how many times have you heard this in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
- 12. In your whole life, have you ever seen a serious accident where someone else was hurt very badly or died? (Yes/No)
  - a. About how many items has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you seen a serious accident like this?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times

13. In your whole life, have you ever been in a serious accident where you or someone else was hurt very badly or died? (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you been in a serious accident like this?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
14. In your whole life, have you ever seen someone else get killed as a result of violence like being shot, stabbed, or beaten to death? (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you seen someone get killed as a result of violence?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
15. A number of people experience sexual assault or unwanted sexual contact during their lifetime. In this question we are asking about any sexual assault that was forced on you or that you were pressured into, whether it be done by a stranger or someone you know. In your whole life, have you ever been sexually assaulted, molested, or raped? (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you been sexually assaulted, molested, or raped?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
16. Other than what you have already told me, in your whole life, have you ever seen someone threaten to seriously hurt another person? This includes being threatened with a weapon. (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you seen someone get threatened?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
17. Other than what you have already told me, in your whole life, has someone ever threatened to seriously hurt you? Again, this includes being threatened with a weapon. (Yes/No)
  - a. About how many times has this ever happened?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times
  - b. Now just thinking about the last 12 months, have you ever been threatened?
  - c. About how many times has this happened in the last 12 months?
    - i. Once, 2 or 3 times, 4 to 10 times, More than 10 times

### The Youth Self Report

I am going to read a list of items that describe feelings or thoughts people sometimes have. For each item that describes you now or within the last 6 months, please say “2” if this item is very true or often true of you, “1” if the item is somewhat or sometimes true of you, or “0” if the item is not true of you.

1. I argue a lot. Is this very true, somewhat true, or not true for you?
2. I have trouble concentrating or paying attention
3. I have trouble sitting still
4. I feel lonely
5. I feel confused or in a fog
6. I cry a lot
7. I am pretty honest
8. I daydream a lot
9. I deliberately try to hurt or kill myself
10. I try to get a lot of attention
11. I destroy things belonging to others
12. I disobey my parents
13. I disobey at school
14. I don't eat as well as I should
15. I don't feel guilty after doing something I shouldn't
16. I am afraid I might think or do something bad
17. I feel that I have to be perfect
18. I feel that no one loves me
19. I feel that others are out to get me
20. I feel worthless or inferior
21. I get in many fights
22. I hang around with kids who get in trouble
23. I act without stopping to think
24. I would rather be alone than with others
25. I lie or cheat
26. I am nervous or tense
27. I am too fearful or anxious
28. I feel dizzy
29. I feel too guilty
30. I eat too much
31. I feel overtired
32. In the past six months, have you had any physical problems without a known medical cause such as:
  - a. Aches or pains, not including headaches
  - b. Headaches
  - c. Nausea or feelings ick

- d. Problems with eyes
  - e. Rashes or other skin problems
  - f. Stomach aches or cramps
  - g. Vomiting or throwing up
33. I would rather be with older kids than with kids my own age. Is this very true, somewhat true, or not true for you?
34. I refuse to talk
35. I run away from home
36. I scream a lot
37. I am secretive or keep things to myself
38. I am self-conscious or easily embarrassed
39. I set fires
40. I am shy
41. I sleep less than most kids
42. I sleep more than most kids during the day or night
43. I am stubborn
44. My moods or feelings change suddenly
45. I am suspicious
46. I swear or use dirty language
47. I think about killing myself
48. I tease others a lot
49. I have a hot temper
50. I threaten to hurt people
51. I cut classes or skip school
52. I don't have much energy
53. I am unhappy, sad or depressed
54. I worry a lot

## The Suicide Interview

- |   |  |
|---|--|
| 1. Has there ever been a time when you often thought about death or about people who had died or about being dead yourself? | Yes/No   |
| 2. Have you thought about death or dying in the last 12 months?   | Yes/No   |
| 3. In the last 12 months, have you thought about death or dying a lot <b>more</b> than you usually do?                      | Yes/No   |
| 4. Has there ever been a time when you thought seriously about killing yourself?  | Yes/No   |
| 5. Have you thought seriously about killing yourself in the last 12 months?   | Yes/No   |
| 6. Have you thought this <b>many</b> times in the last 12 months?   | Yes/No   |
| 7. In the last 12 months, did you have a plan for exactly <b>how</b> you would kill yourself?                               | Yes/No   |
| 8. Have you ever tried to kill yourself or made a suicide attempt?  | Yes/No   |
| 9. How many times have you tried to kill yourself?  | Yes/No   |
| 10. Did you ever go to see a doctor, go to an emergency room, or go into the hospital because of trying to kill yourself?   | Yes/No   |
| 11. In the last 12 months, have you tried to kill yourself?   | Yes/No   |
| 12. When was your last suicide attempt?   | MM YY  |
| 13. How did you try to kill yourself (the last time you tried)? What did you do?  | 01 gunshot<br>02 overdose of pills<br>03 self-mutilation<br>04 exposure to gas<br>05 asphyxiation<br>06 jumping from a height<br>07 throwing self in front of motor vehicle<br>08 other method |
| 14. Did you receive medical care for your last suicide attempt?   | Yes/ No  |
| 15. Where did you receive care?   |  |
| 16. When did you receive care?  |  |

### Self-Report of Offending

Remember, at the beginning of the study, I told you about the special protection to ensure your privacy? The Federal Certificate of Confidentiality makes it illegal for anyone, even your parents or people at school, to see or find out what your answers are in this study. No one except our research staff will ever see them. Your answers can never be seen by police, the courts, your parents, or anyone else. Also, I am not allowed to discuss your answers with you or anyone else. If you have any concerns or questions when we are through, [read for 09 and 12: you may want to contact someone on the resource guide I gave you earlier or] you can call our office.

I am going to describe some things that people do. For each one, please tell me if you have done any of these things in the last 12 months, that is since ... Again, I will be asking you how many times you have done some of these things in the last 12 months. Just give your best estimate or guess.

In the last 12 months have you...

1. Run away from home and stayed away overnight?
2. Been absent from school without an excuse?
3. Carried a hidden weapon?
4. Caused trouble in a public place so that people complained about it? This includes being loud and disorderly
5. Purposely damaged or destroyed property that did not belong to you? Like breaking, cutting, or marking up something?
6. Purposely set fire to a house, building, car, or vacant lot?
7. Entered or broken into a building to steal something?
8. Stolen something from a store?
9. Stolen a bike?
10. Stolen something from any member of your household?
11. Stolen something from your place of work or your employer?
12. Snatched someone's purse or wallet or picked someone's pocket?
13. Stolen something from a car
14. Knowingly bought or sold stolen goods?
15. Stolen a car or motorcycle to keep or sell?
16. Used checks illegally to pay for something?
17. Used credit or bank cards without the owner's permission?
18. Sold marijuana or pot?
19. Sold cocaine or crack?
20. Sold heroin?
21. Hit someone you live with with the idea of hurting them?
22. Hit someone you did not live with with the idea of hurting them?
23. Attacked someone with a weapon?
24. Used a weapon or force to get money or things from people?
25. Thrown objects like rocks or bottles at people- other than what you have already told me about?



26. Chased someone to scare or hurt them?
27. Shot someone?
28. Shot at someone?
29. Been in a gang fight in which someone was hurt or threatened with harm?
30. Threatened to physically hurt someone- other than what you have already told me about?
31. Had or tried to have sexual relations with someone against their will?
32. Been paid by someone for having sexual relations with them?  
used a false name or alias to try to get something you were not entitled to--like a job or a bank loan?
33. Given false information (other than a false name) on an application for job, tax form, or an application for a loan or bank account?
34. Been given a ticket for a driving offense?
35. Driven a motor vehicle when you did not have a driver's license or after your driver's license had been suspended?

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## VITA

Dr. Burnside grew up in Ann Arbor, Michigan where she attended the University of Michigan, Ann Arbor. She earned a Bachelor of Arts in Psychology with a minor in Crime and Justice, in 2012. Dr. Burnside previously worked as a research coordinator at The Depression Center and The Trauma and Grief Center for Youth at the University of Michigan before joining Dr. Noni Gaylord-Harden's Parents and Children Coping Together (PACCT) Lab at Loyola University Chicago. Throughout graduate school she has worked on a variety of projects examining predictors and consequences of community violence exposure in racial and ethnic minority youth at Loyola University Chicago, DePaul University, and the University of Chicago Medicine. She completed her doctoral internship in pediatric psychology at Ann & Robert H. Lurie Children's Hospital of Chicago where she will be continuing her training as a Consultation-Liaison Postdoctoral Fellow.